

KIC 005042270

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
005042270-01	OBS	No	1.266022	131.939872	7.5	7.479	7.3	4.6	2.14	6675	0.68	13572.12
005042270-02	OBS	No	201.009765	304.907441	106.2	7.436	14.2	2.8	2.14	6675	2.43	15.79
005042270-03	OBS	No	663.404409	237.622715	504.5	9.325	13.3	12.7	2.14	6675	5.59	3.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005042270-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005042270-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005042270-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

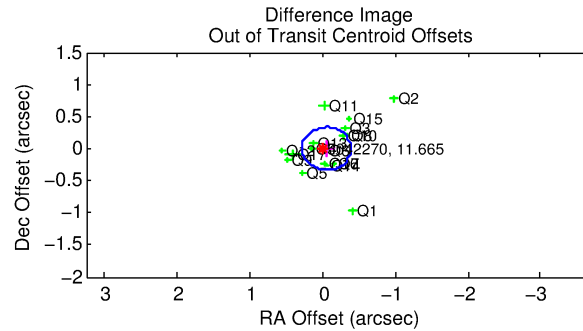
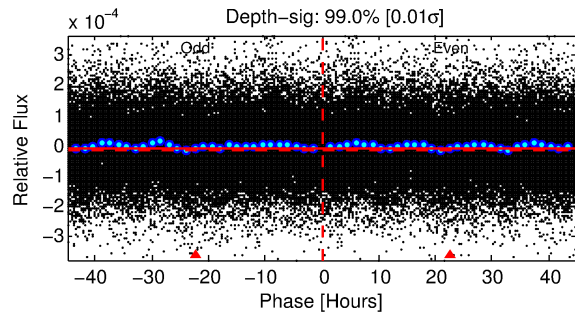
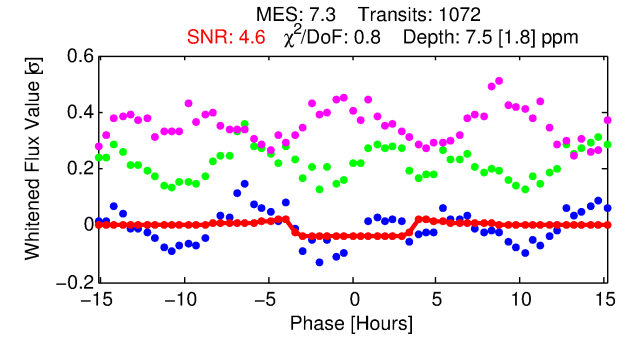
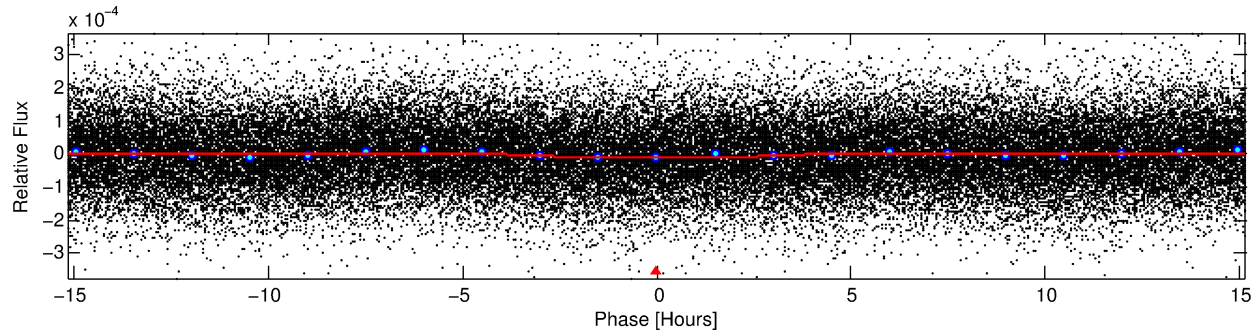
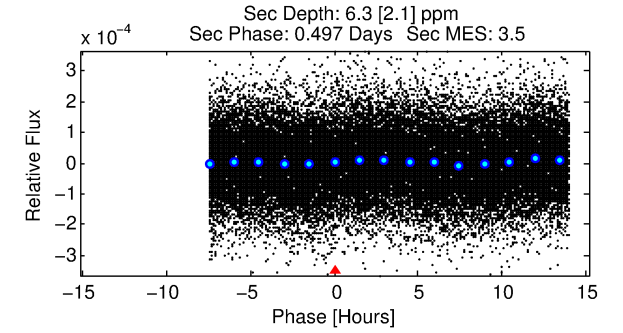
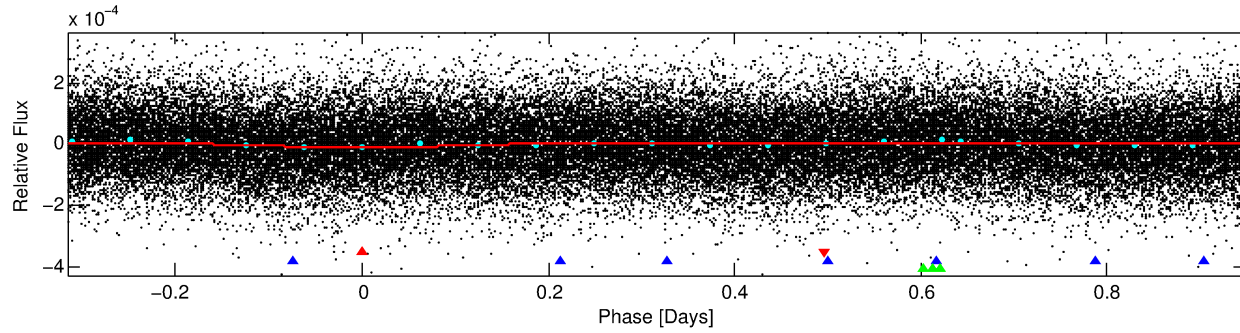
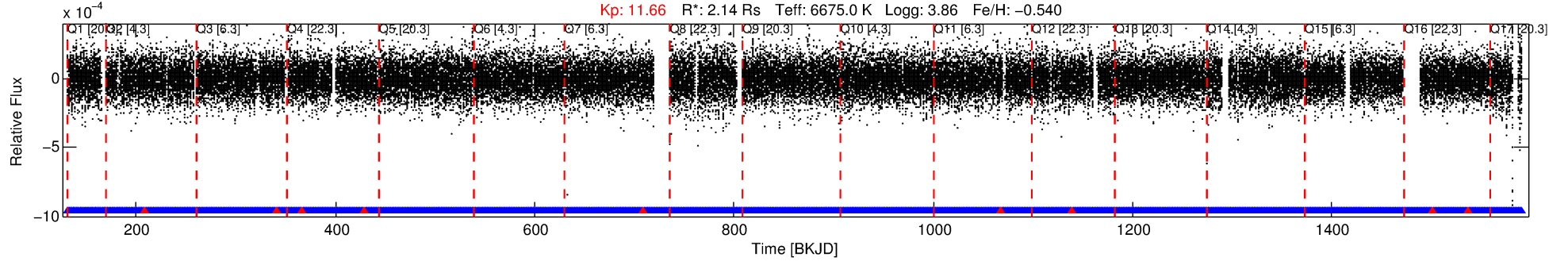
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005042270-01

No Significant Match Found

DV One-Page Summary

KIC: 5042270 Candidate: 1 of 3 Period: 1.266 d



DV Fit Results:

Period = 1.26602 [0.00003] d
Epoch = 131.9399 [0.0079] BKJD
Rp/R* = 0.0029 [0.0014]
a/R* = 1.10 [0.53]
b = 0.90 [0.59]
Seff = 13572.12 [7097.04]
Teq = 2752 [360] K
Rp = 0.68 [0.39] Re
a = 0.0245 [0.0078] AU
Ag = 4.48 [5.00] [0.70σ]
Teffp = 6191 [1545] K [2.17σ]

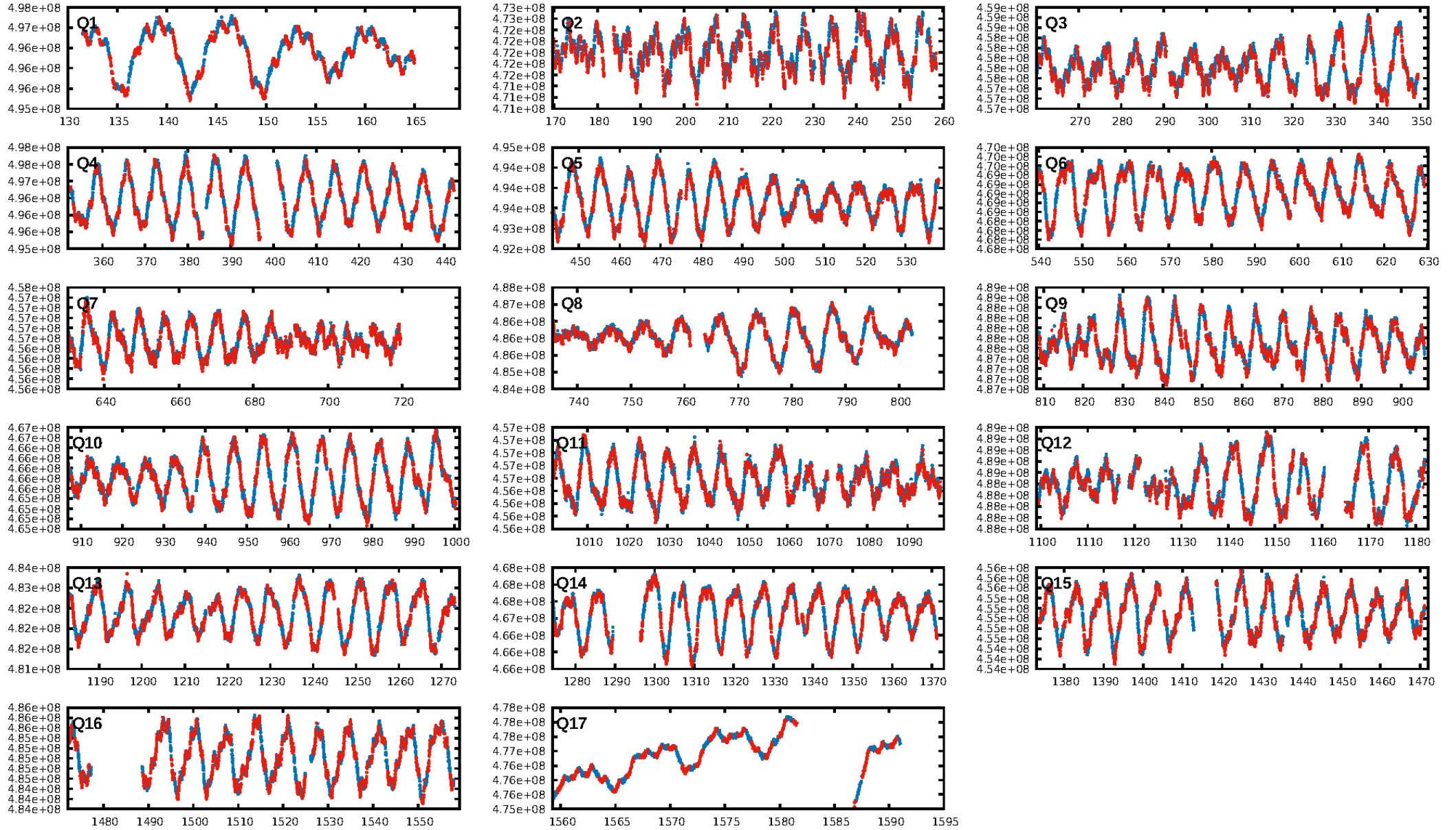
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [454.52σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.57e-14
RollingBand-fgt: 0.99 [1015/1024]
GhostDiagnostic-chr: 0.3205
Centroid-sig: 0.0%
Centroid-so: 5.771 arcsec [3.47σ]
OotOffset-rm: 0.054 arcsec [0.49σ]
KicOffset-rm: 0.036 arcsec [0.35σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

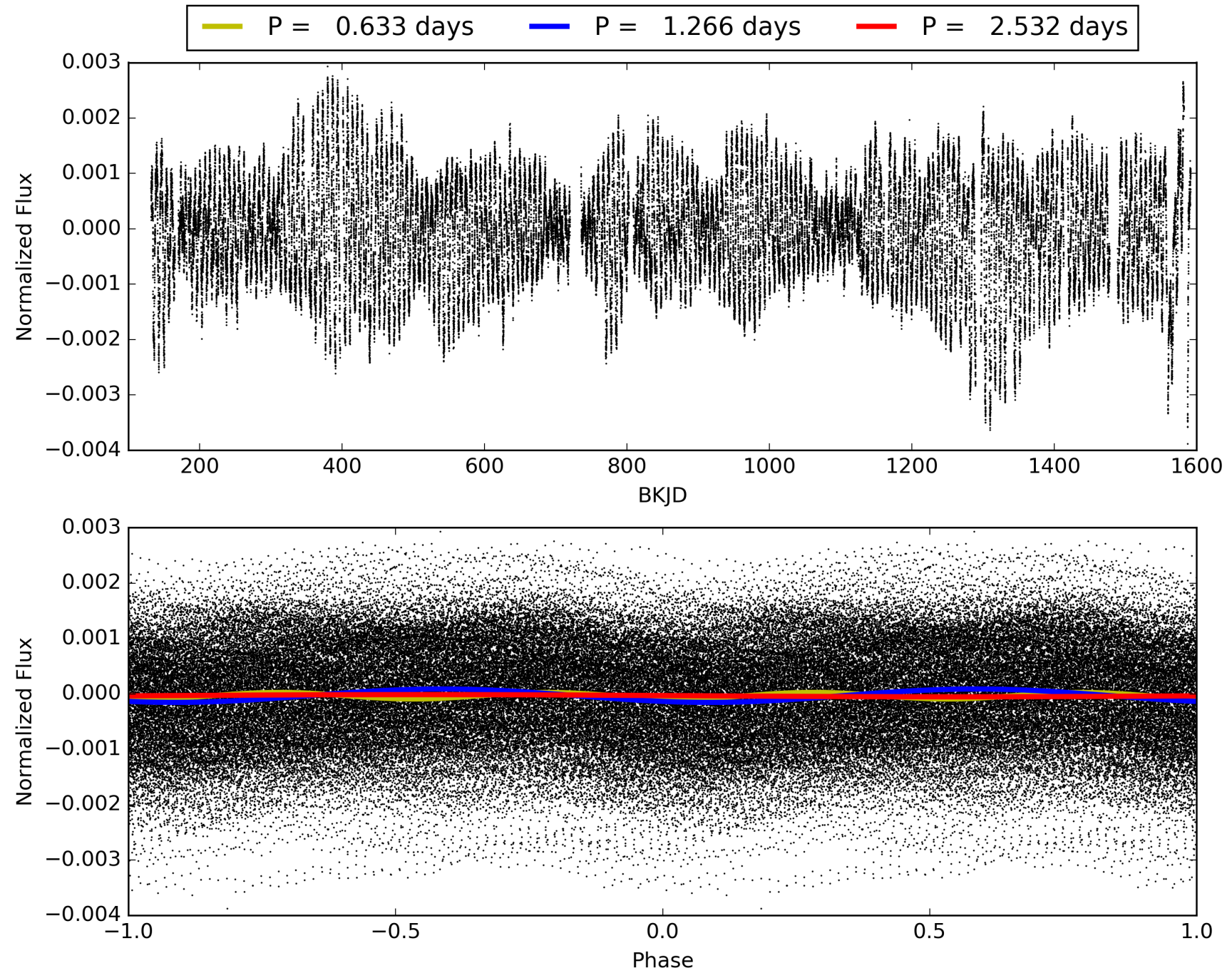
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005042270-01, PDC Light Curves

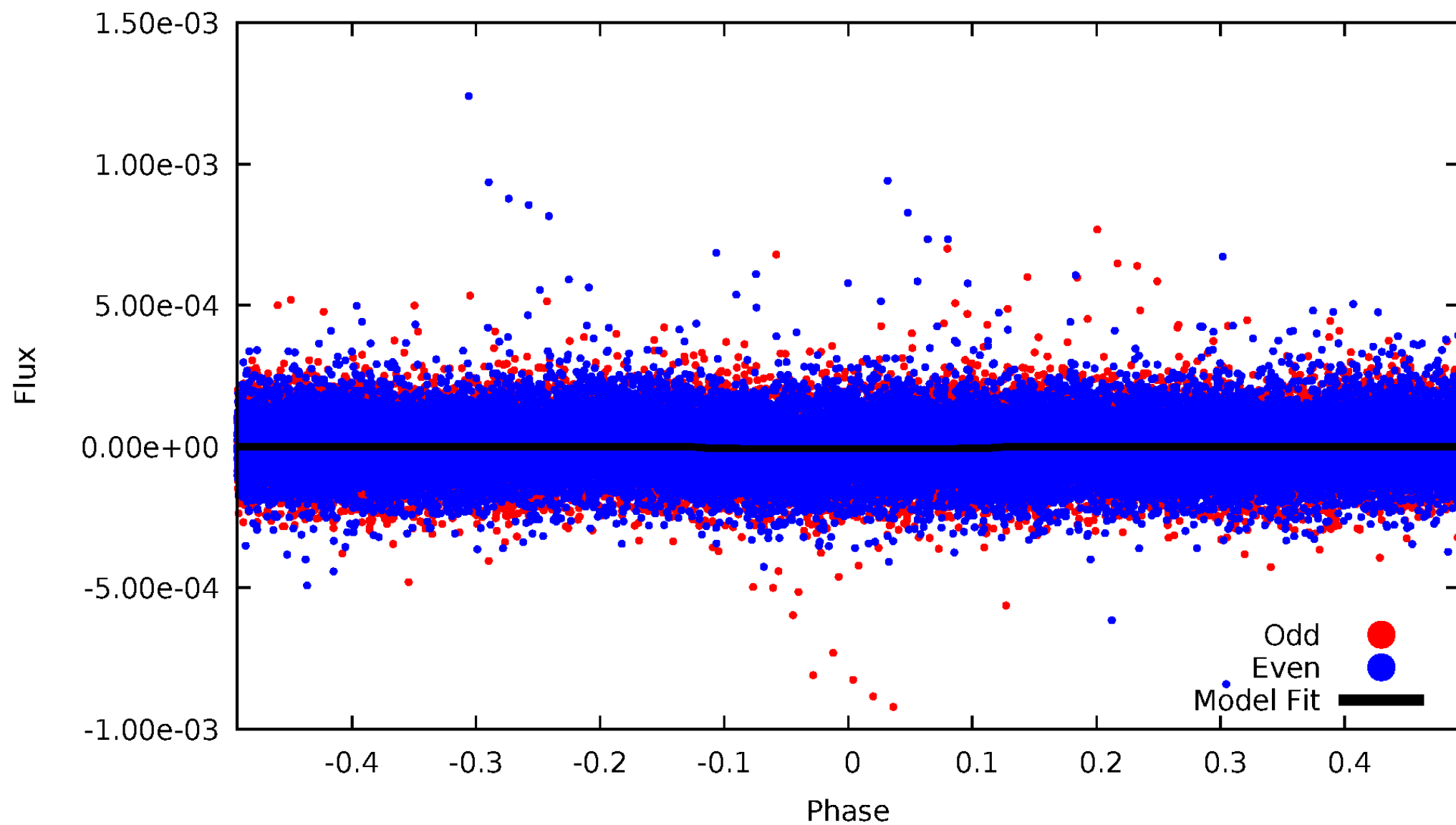


TCE 005042270-01



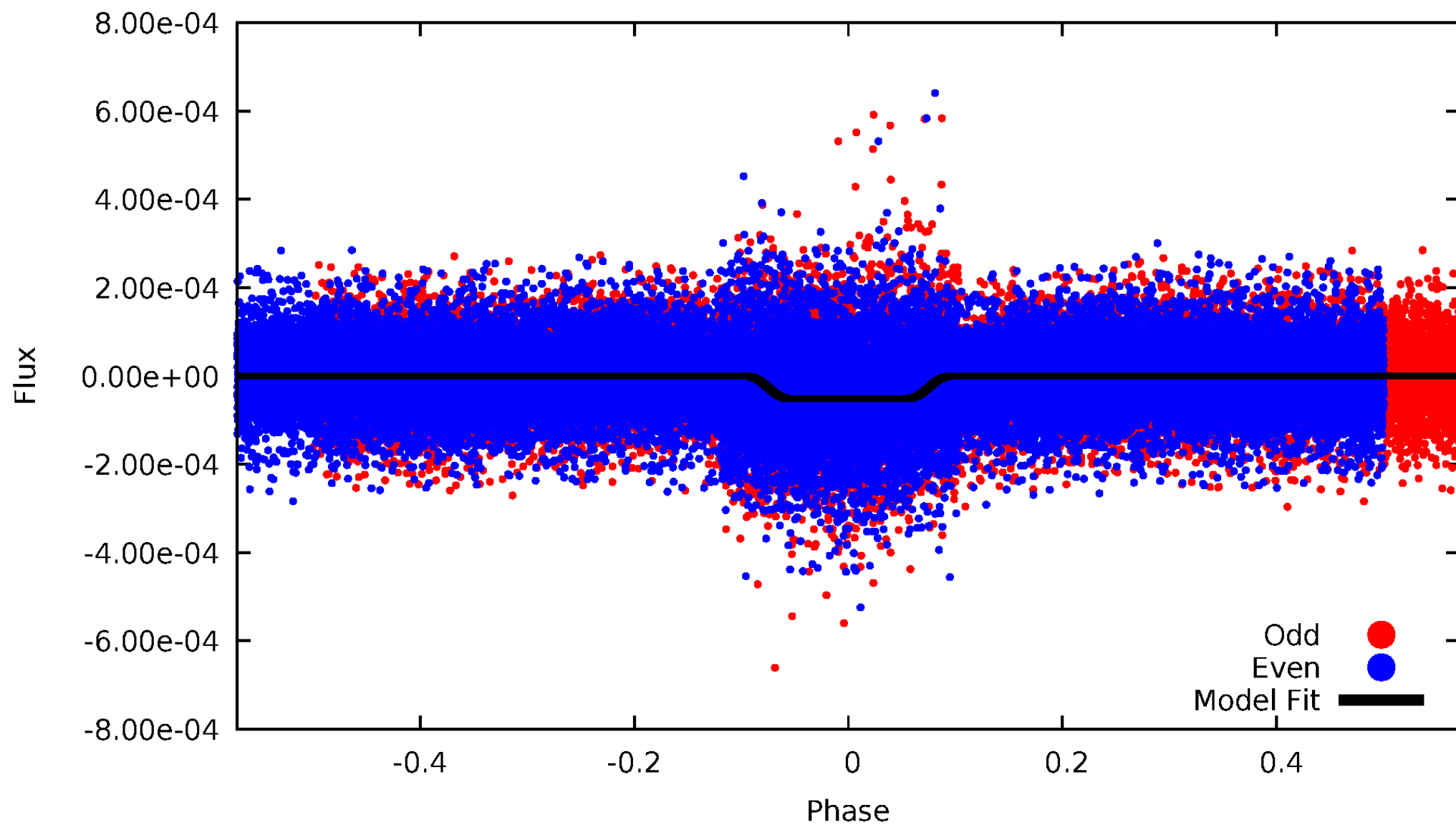
DV Odd/Even

TCE 005042270-01

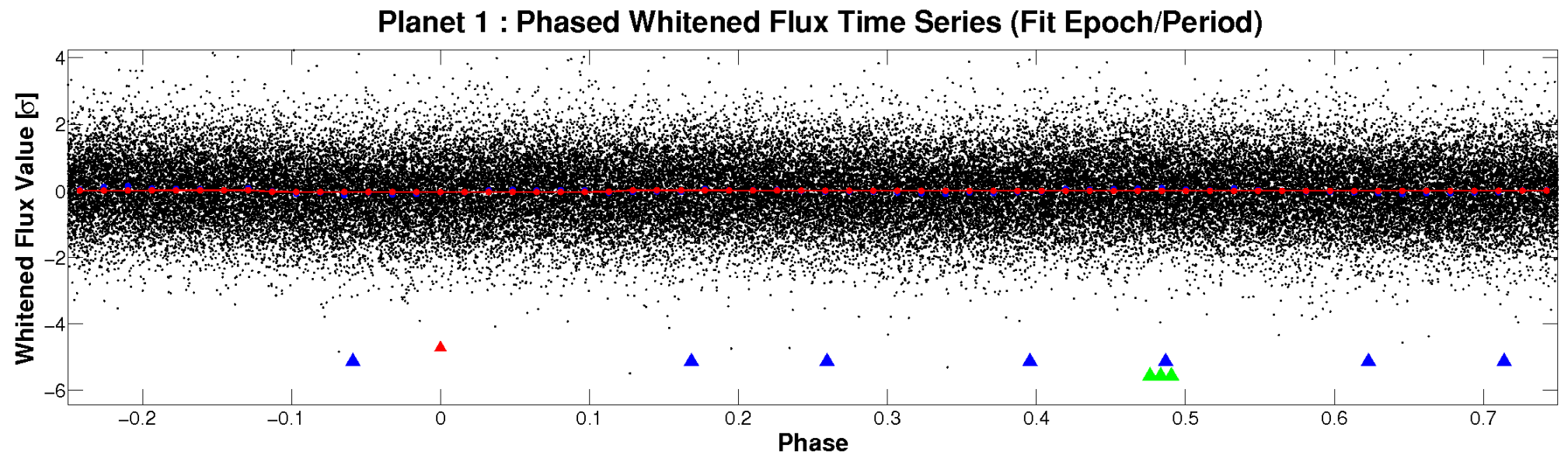
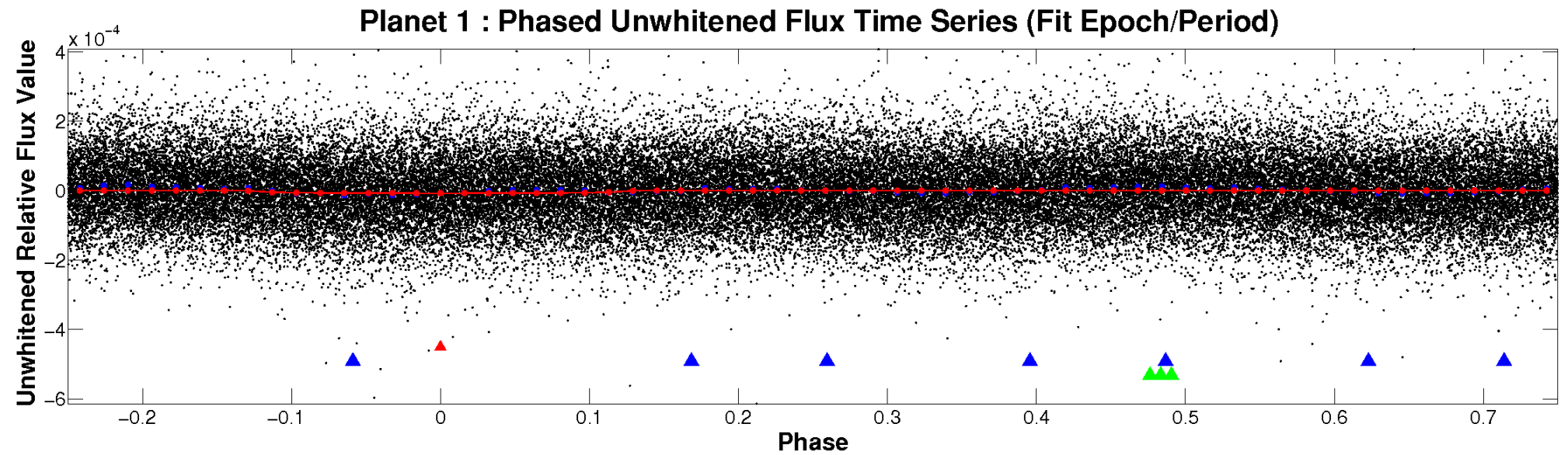


ALT Odd/Even

TCE 005042270-01

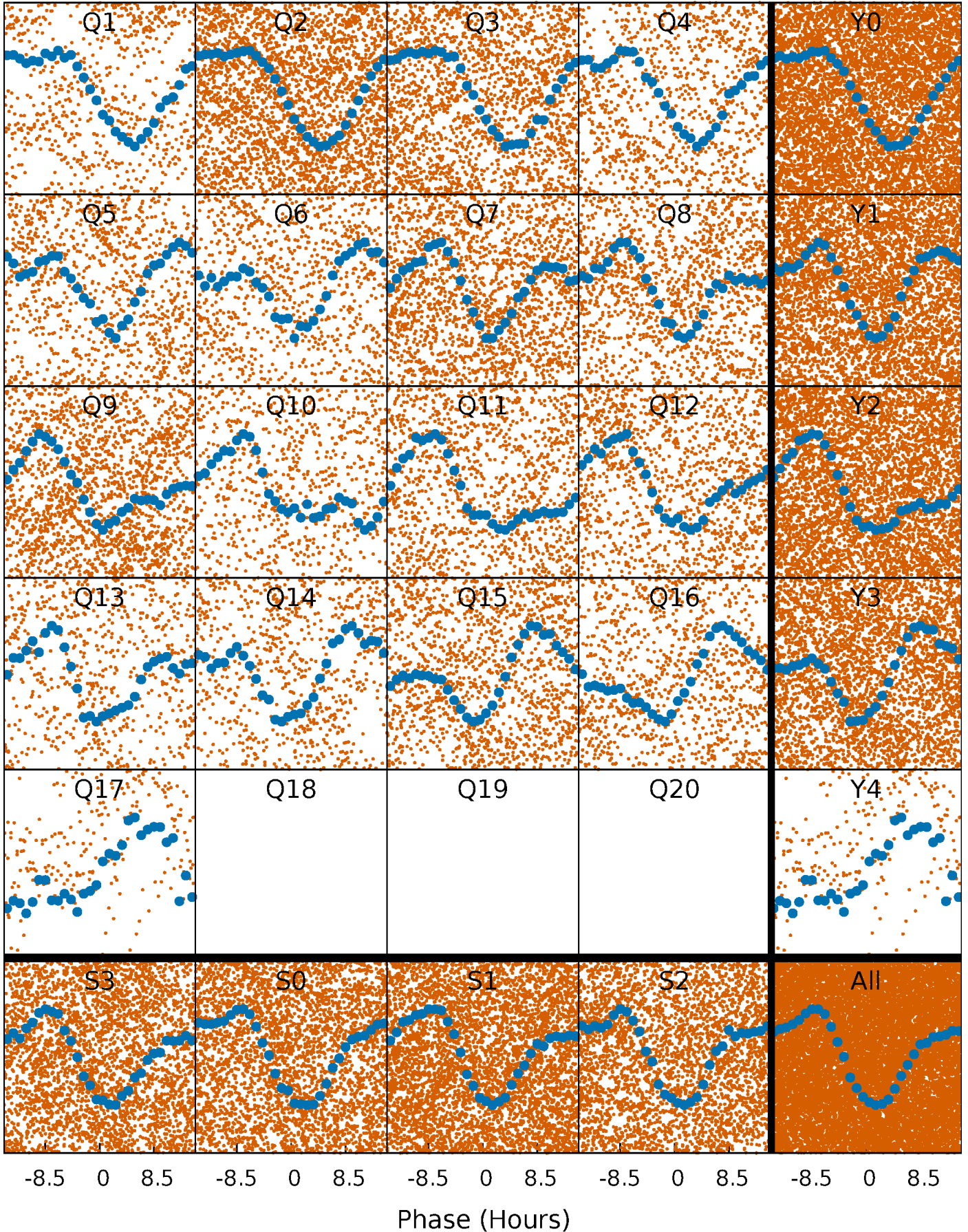


Non-Whitened Vs. Whitened Light Curve



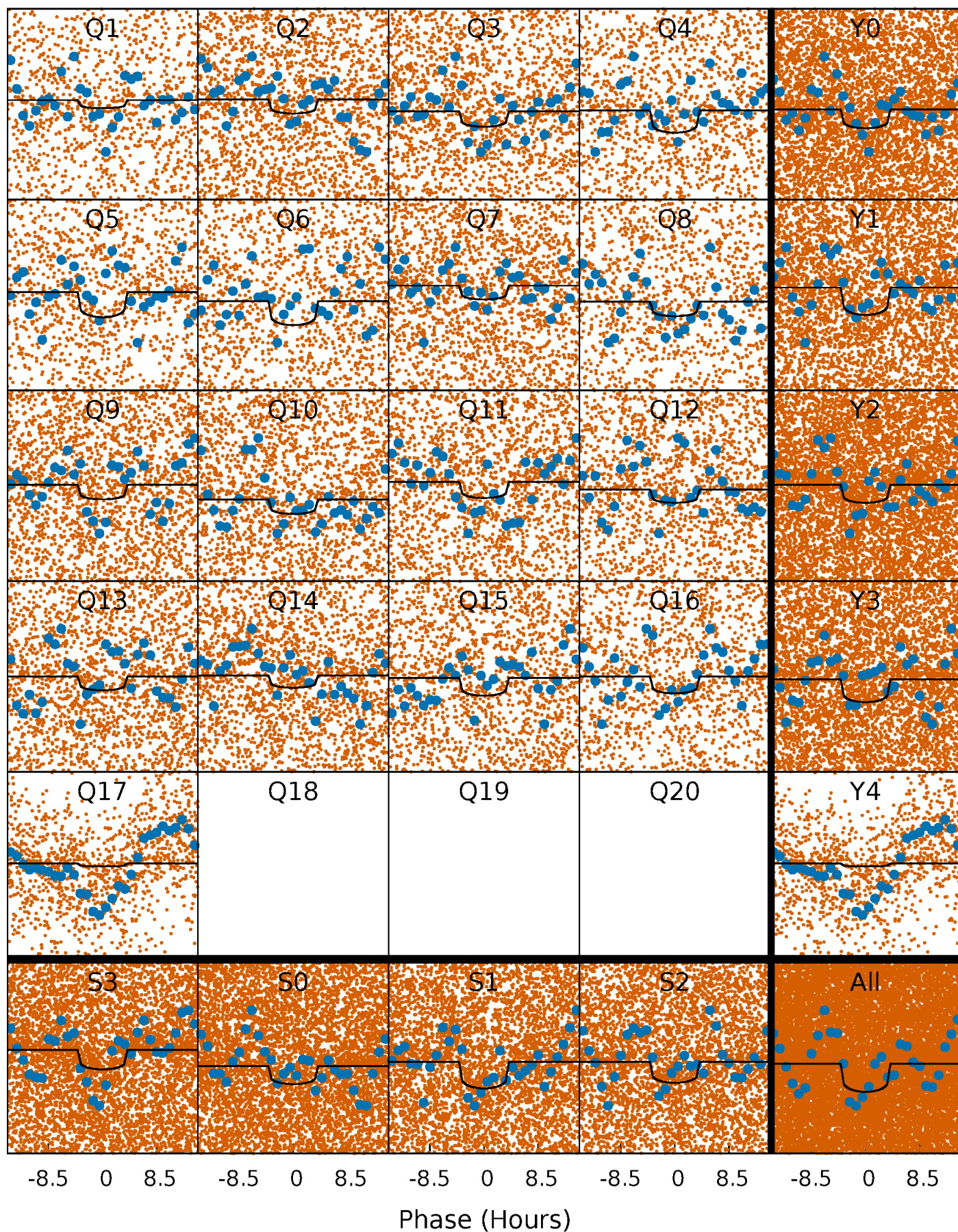
PDC Quarter-Phased Transit Curves

TCE 005042270-01 P= 1.266022 Days $T_0=131.939872$ (BKJD)



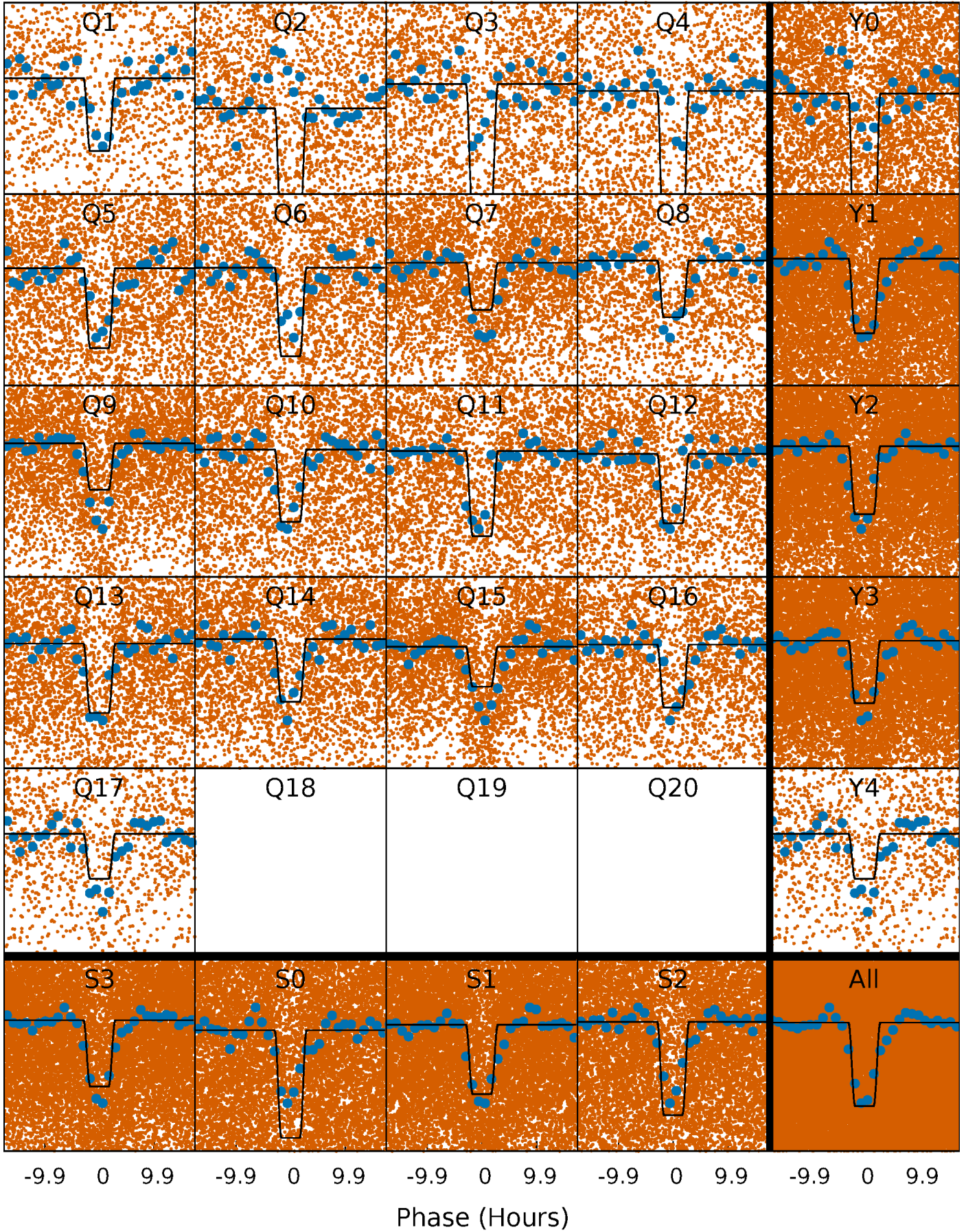
DV Quarter-Phased Transit Curves

TCE 005042270-01 P= 1.266022 Days $T_0=131.939872$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

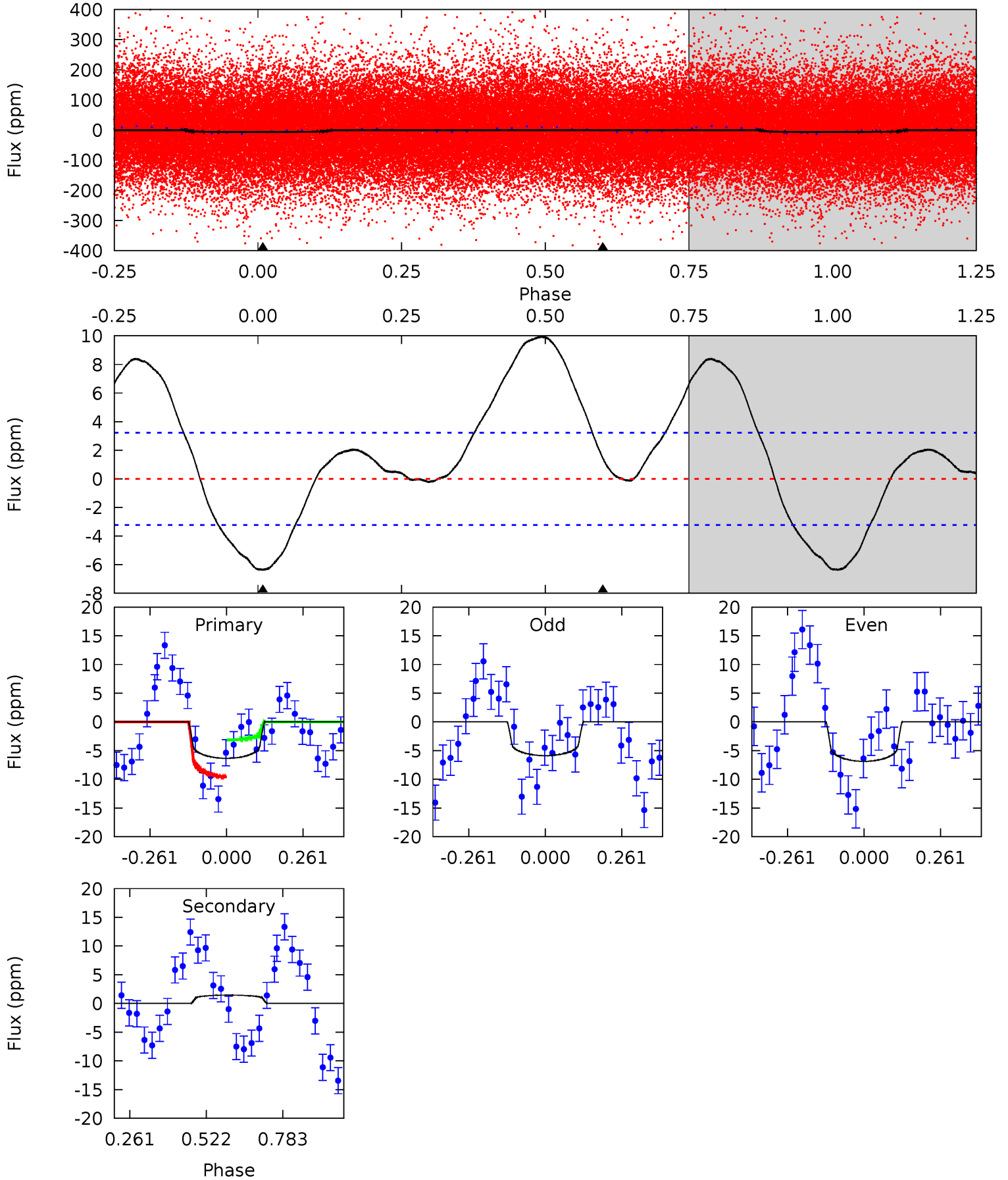
TCE 005042270-01 P= 1.265962 Days $T_0=131.930763$ (BKJD)



DV Model-Shift Uniqueness Test

005042270-01, P = 1.266022 Days, E = 130.673850 Days

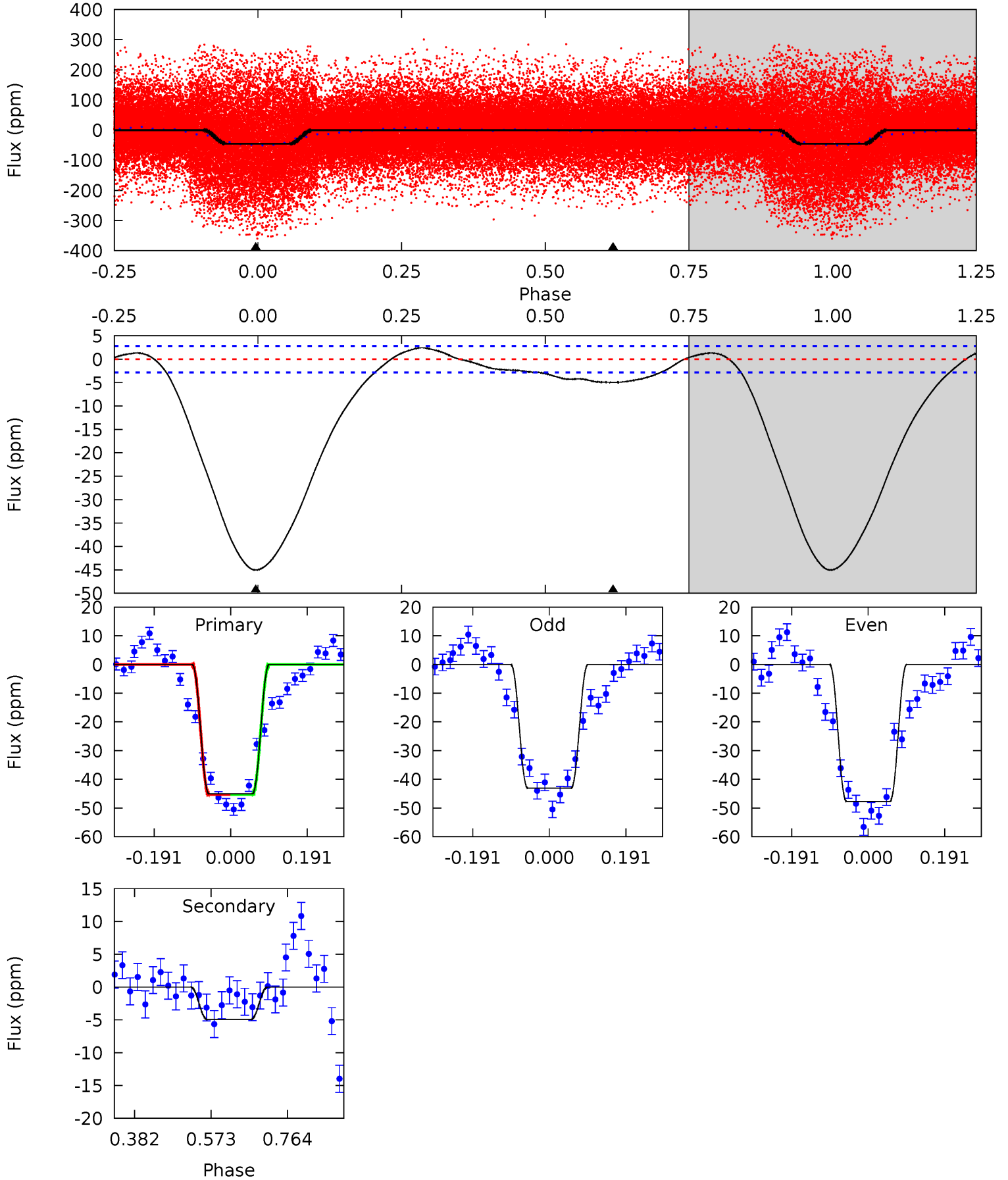
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.58	-1.96	0	0	4.36	1.12	0.56	8.58	8.58	-1.96	-1.96	0.67	0.84	0.61	4.35



Alt Model-Shift Uniqueness Test

005042270-01, P = 1.265962 Days, E = 130.664801 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
70.3	7.72	0	0	4.43	1.31	2.84	70.3	70.3	7.72	7.72	3.62	0.88	0.05	0.02



Stellar Parameters For KIC 005042270

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	6675^{+162}_{-183}	$3.864^{+0.300}_{-0.100}$	$-0.540^{+0.300}_{-0.300}$	$2.137^{+0.384}_{-0.712}$	$1.218^{+0.224}_{-0.204}$	$0.176^{+0.358}_{-0.054}$
	+2%/-3%	+8%/-3%	+56%/-56%	+18%/-33%	+18%/-17%	+204%/-31%
Source	PHO1	FLK73	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 005042270-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	1 ± 1	$0.65^{+0.34}_{-0.31}$	3773^{+225}_{-332}	-4618^{+590}_{-1273}	$-1.046^{+0.688}_{-2.868}$
Alt.	-5 ± 1	$1.59^{+0.41}_{-0.39}$	3779^{+220}_{-324}	3630^{+465}_{-538}	$0.661^{+0.481}_{-0.253}$

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

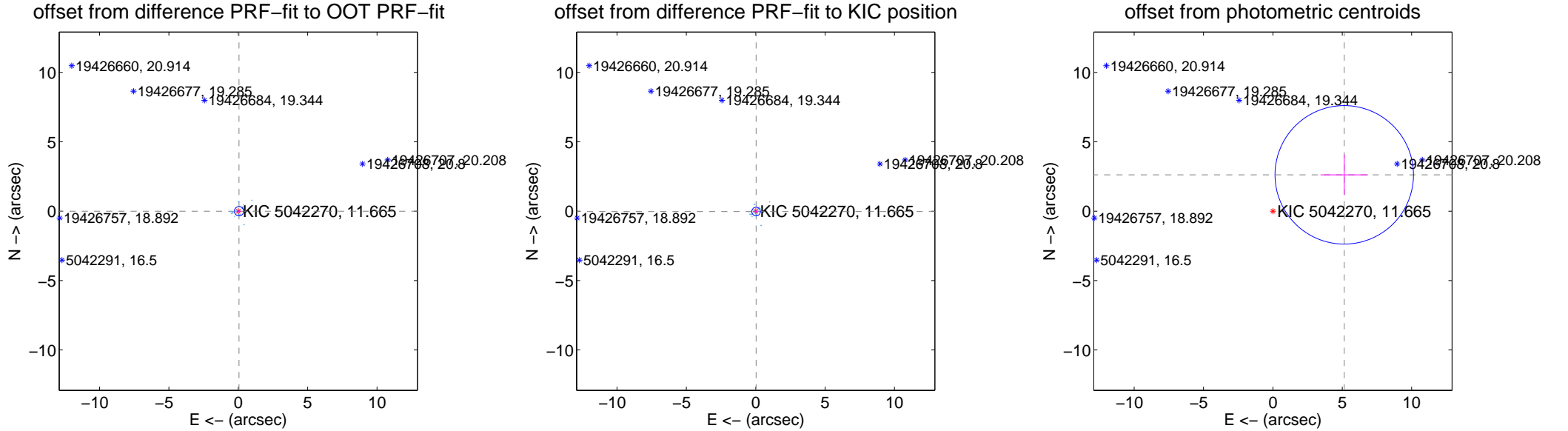
DV Centroid Data

Supplemental centroid analysis for 005042270-01. **Kepler magnitude: 11.66.** Transit SNR 4.57

There are 17 quarters with good PRF difference image offsets

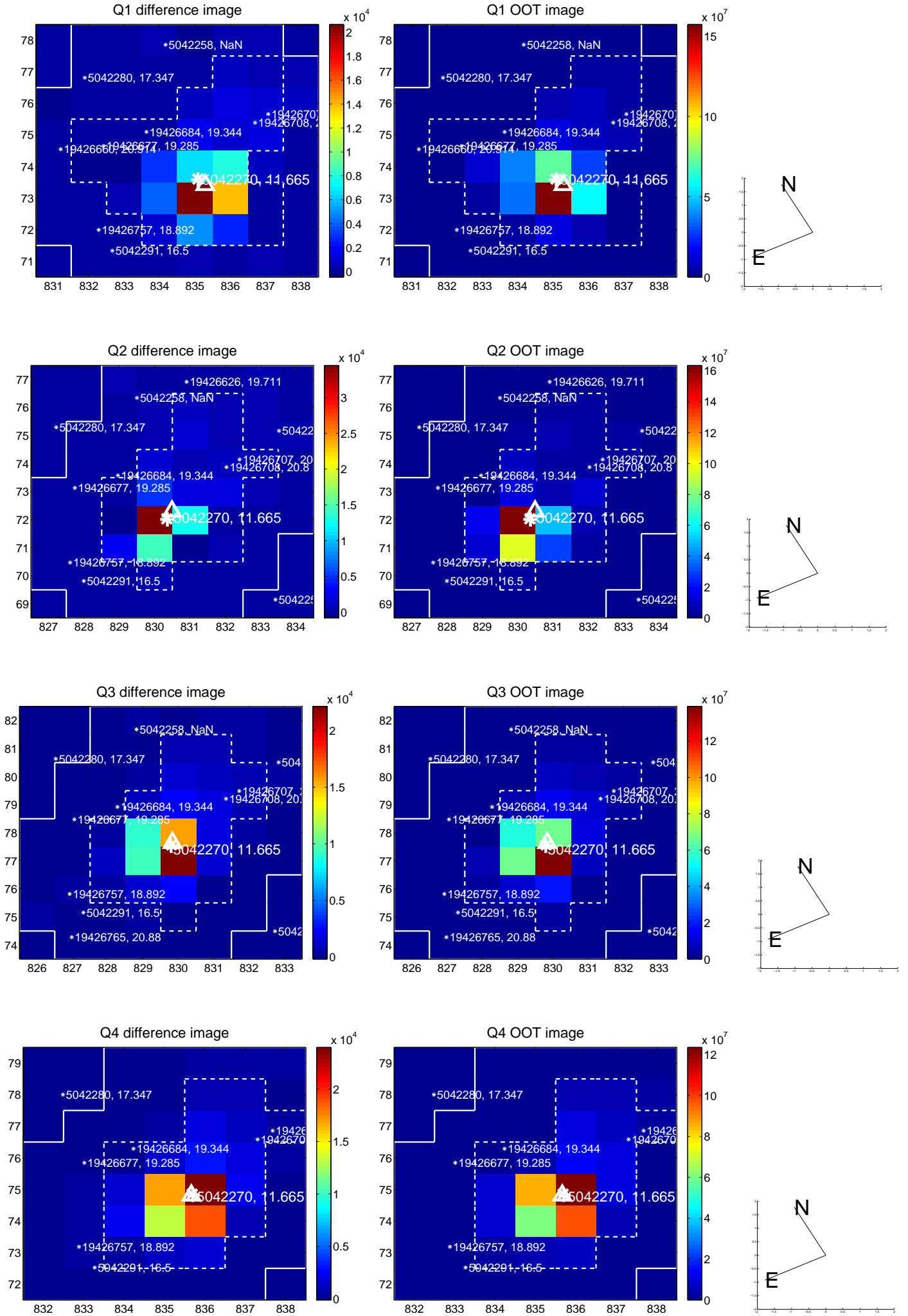
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.054 ± 0.112	0.49	-0.054 ± 0.112	-0.001 ± 0.112
PRF-fit source offset from KIC position	0.036 ± 0.103	0.35	-0.026 ± 0.105	-0.025 ± 0.101
photometric centroid source offset	5.77 ± 1.66	3.47	-5.14 ± 1.71	2.62 ± 1.45

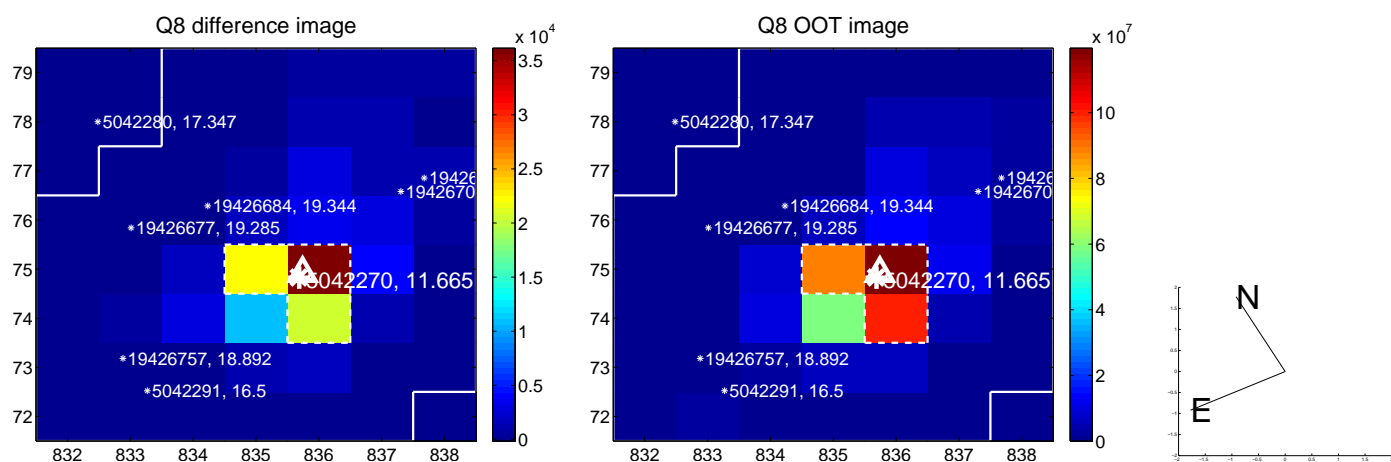
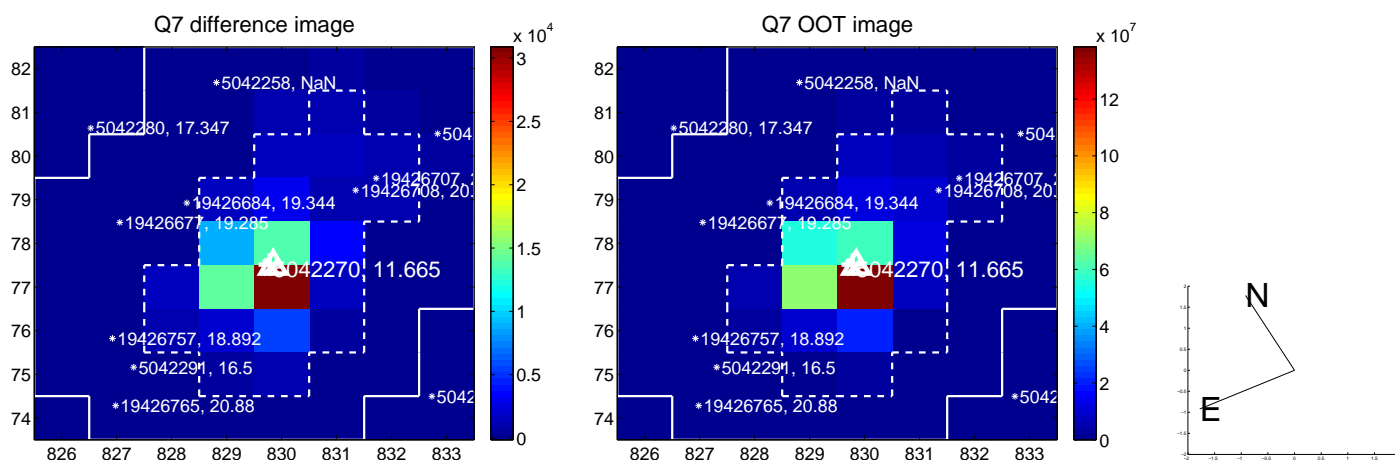
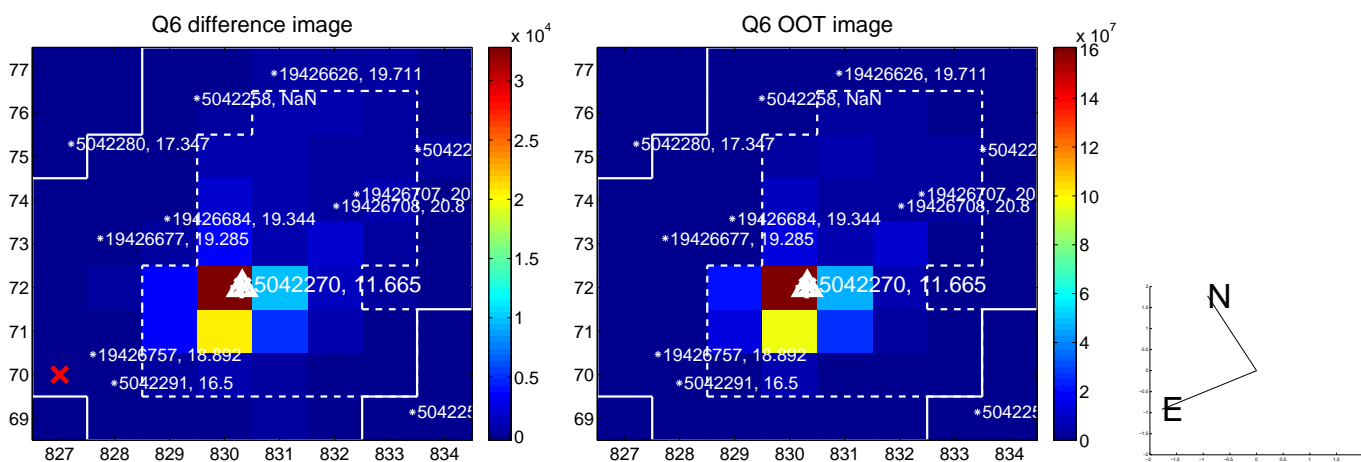
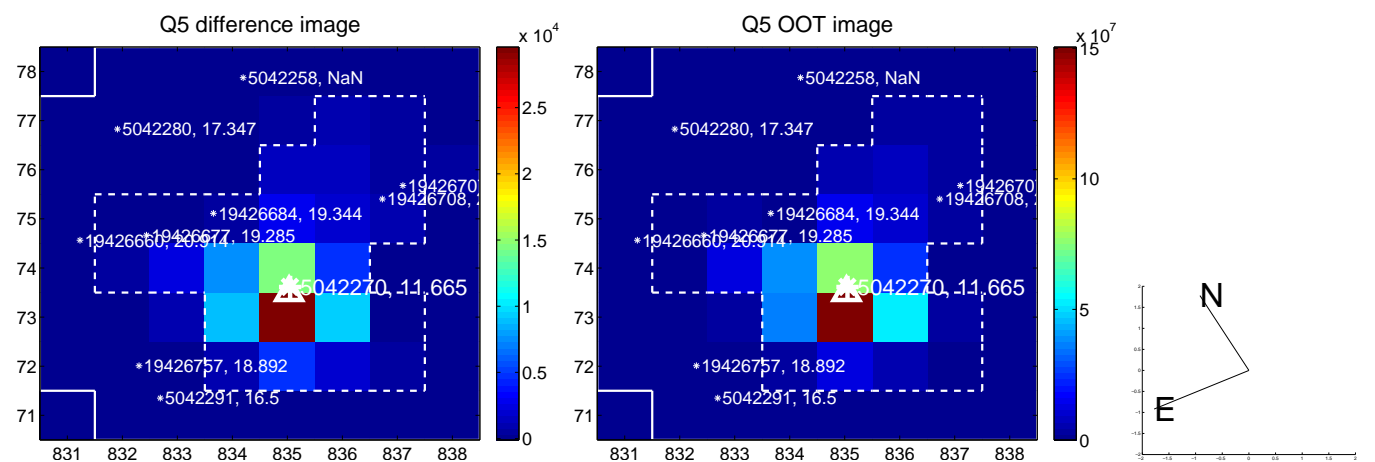


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

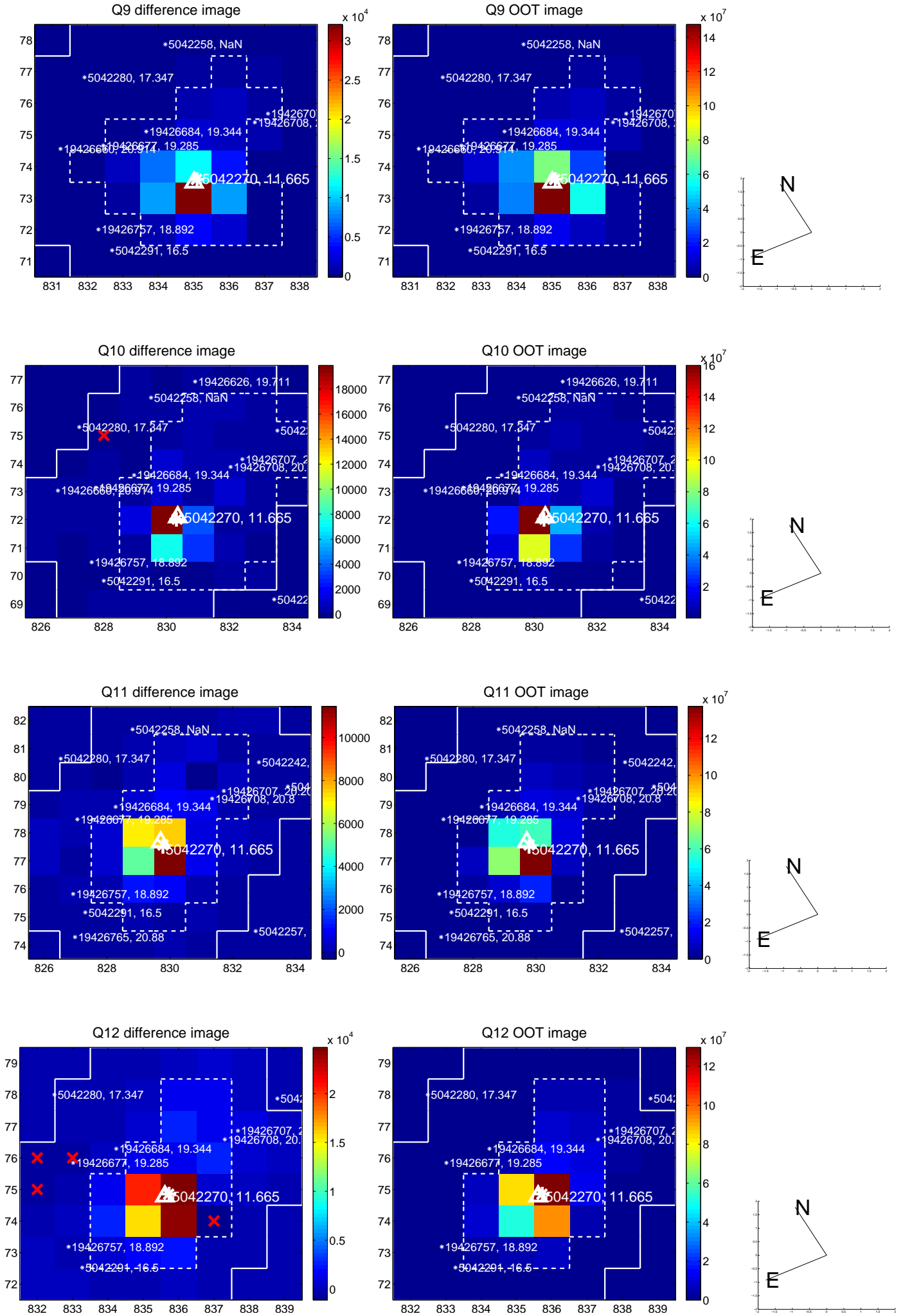
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



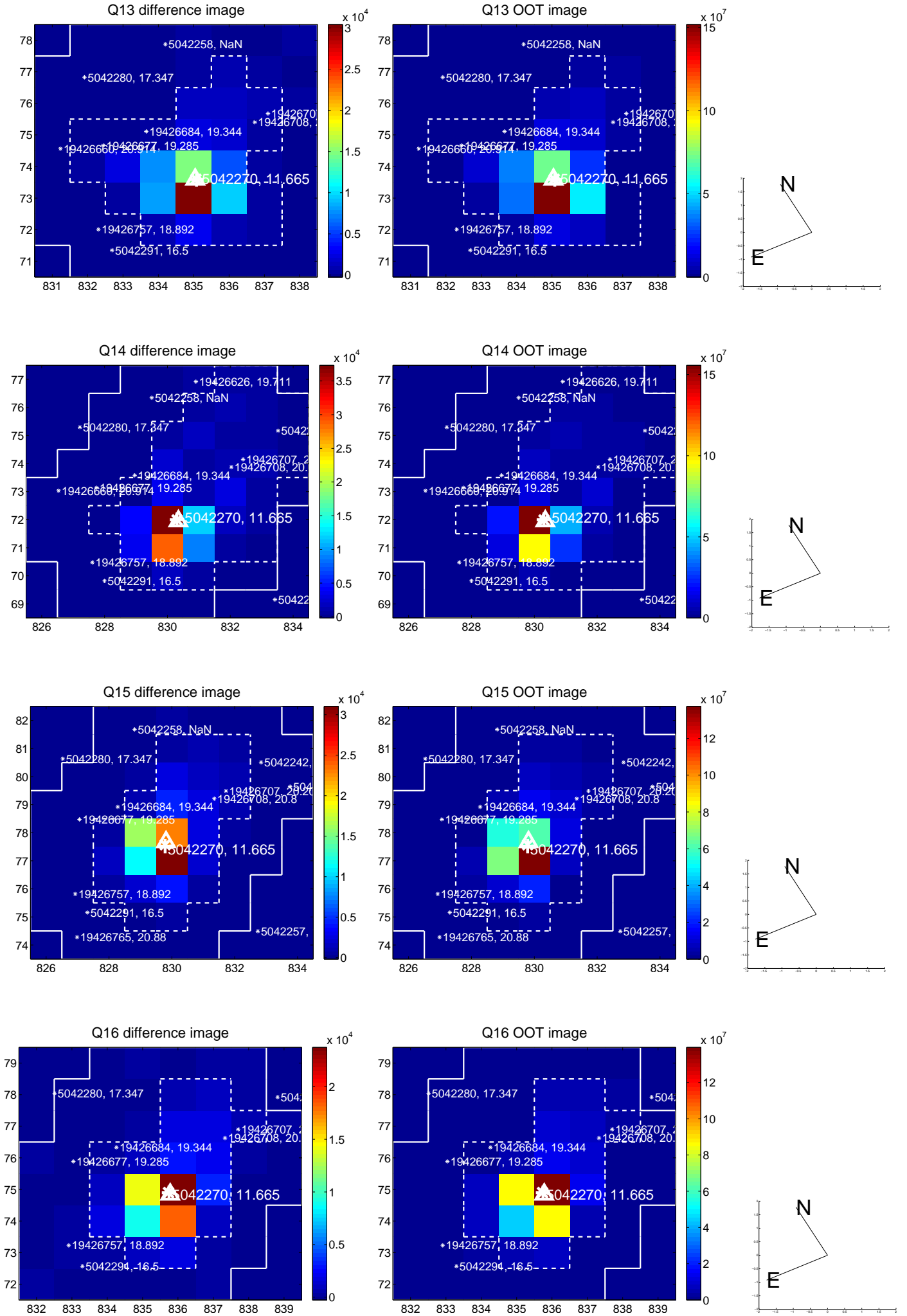
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



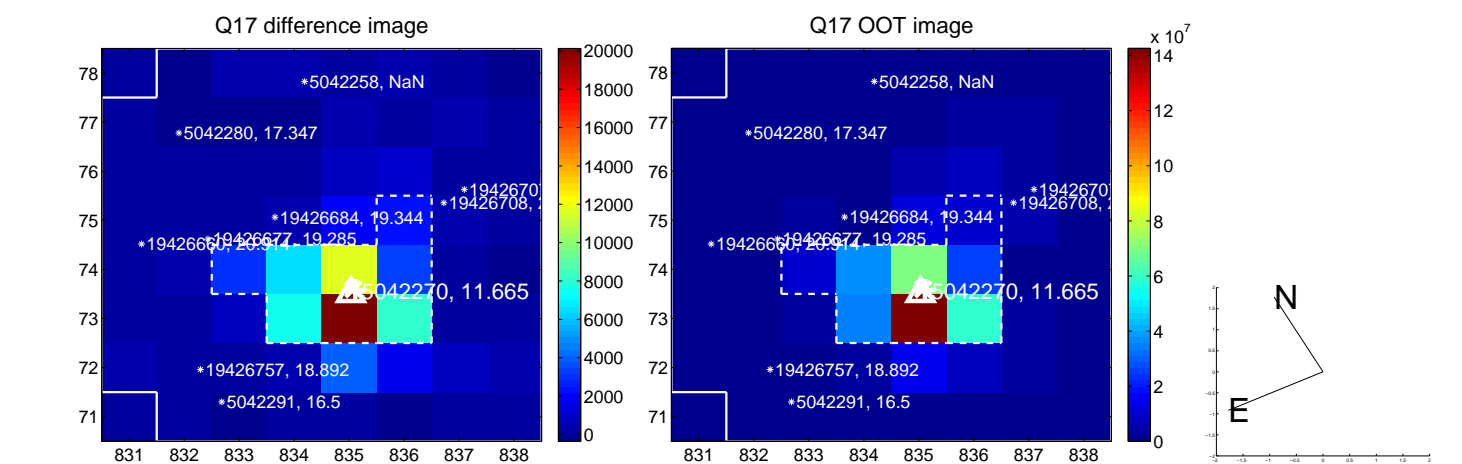
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



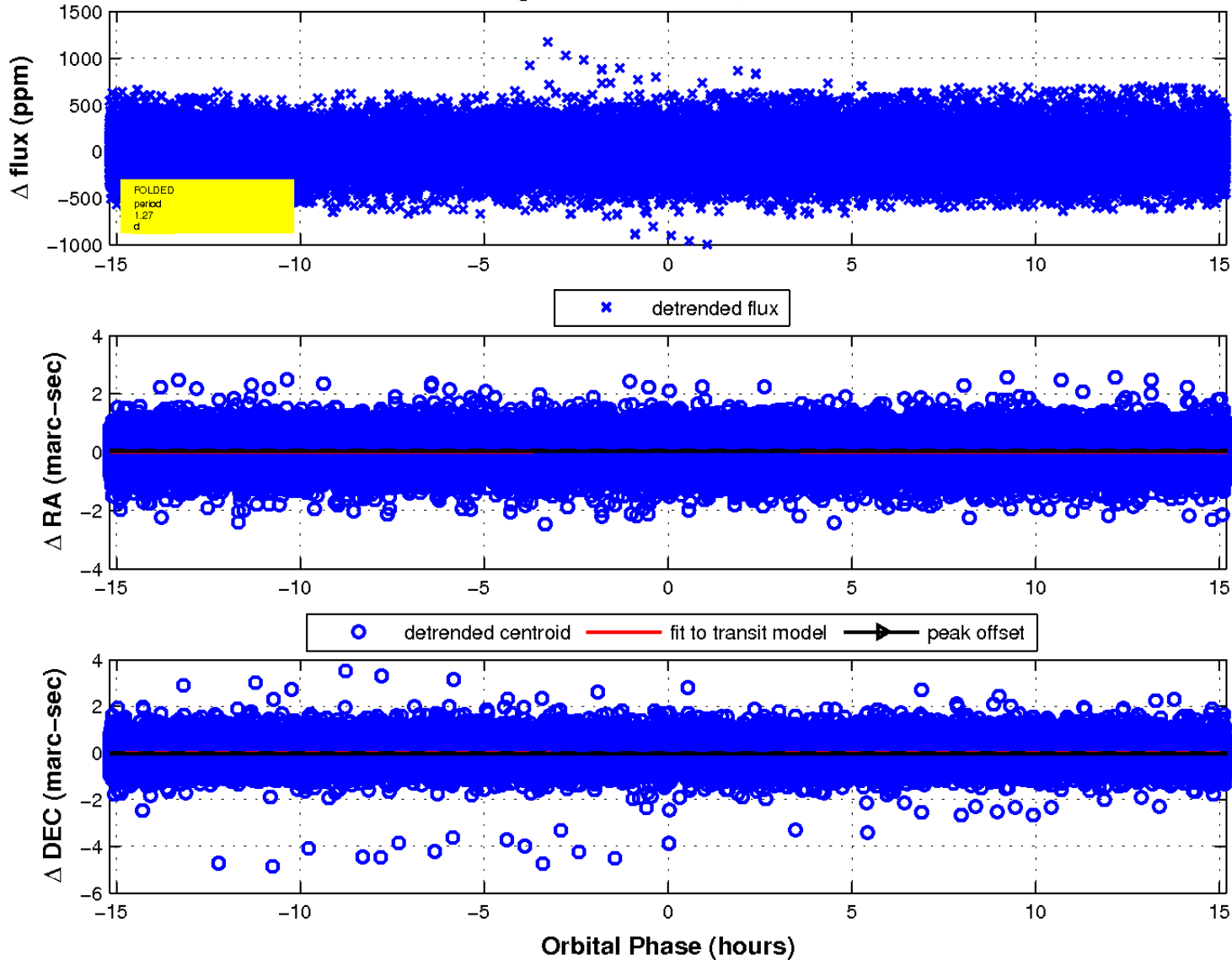
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

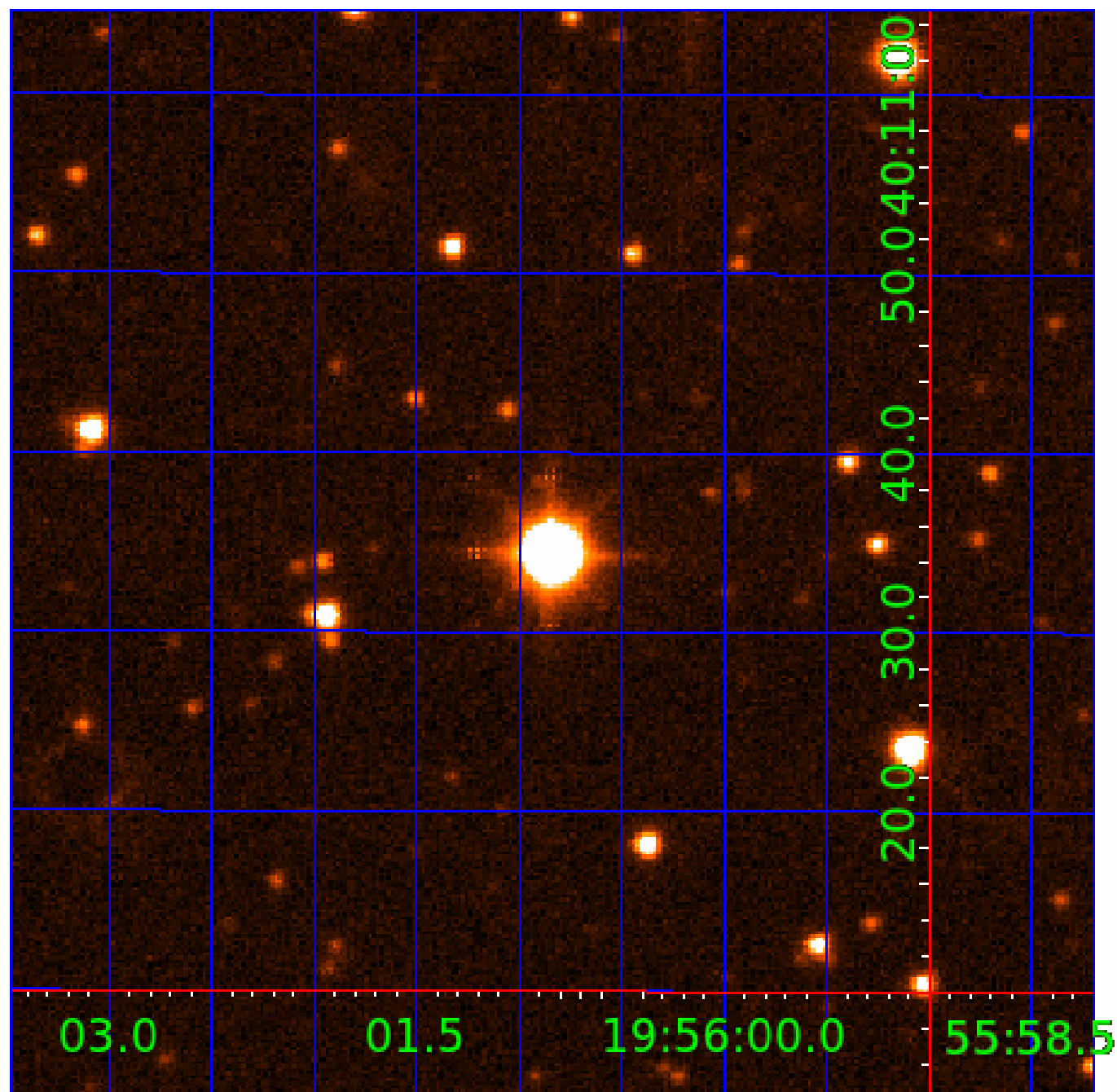


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 005042270

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
005042270-01	OBS	No	1.266022	131.939872	7.5	7.479	7.3	4.6	2.14	6675	0.68	13572.12
005042270-02	OBS	No	201.009765	304.907441	106.2	7.436	14.2	2.8	2.14	6675	2.43	15.79
005042270-03	OBS	No	663.404409	237.622715	504.5	9.325	13.3	12.7	2.14	6675	5.59	3.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005042270-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005042270-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005042270-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

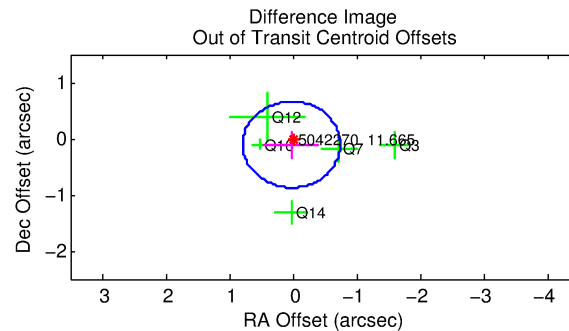
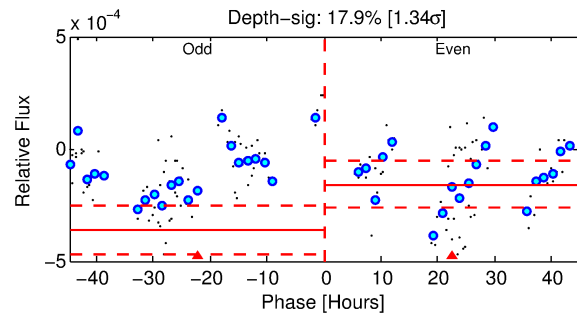
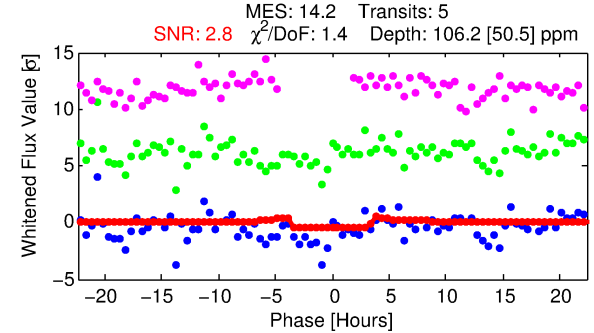
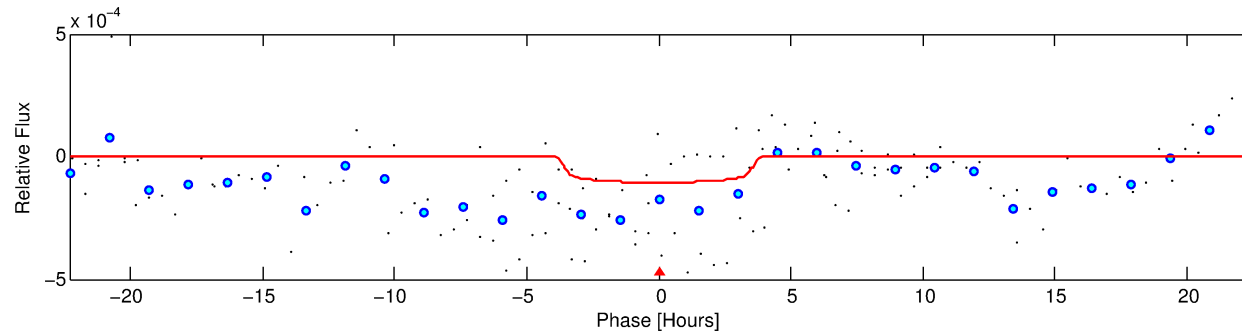
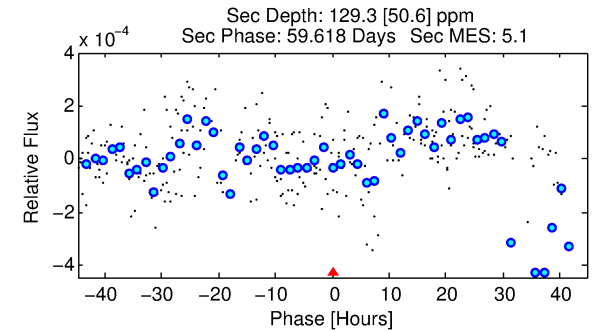
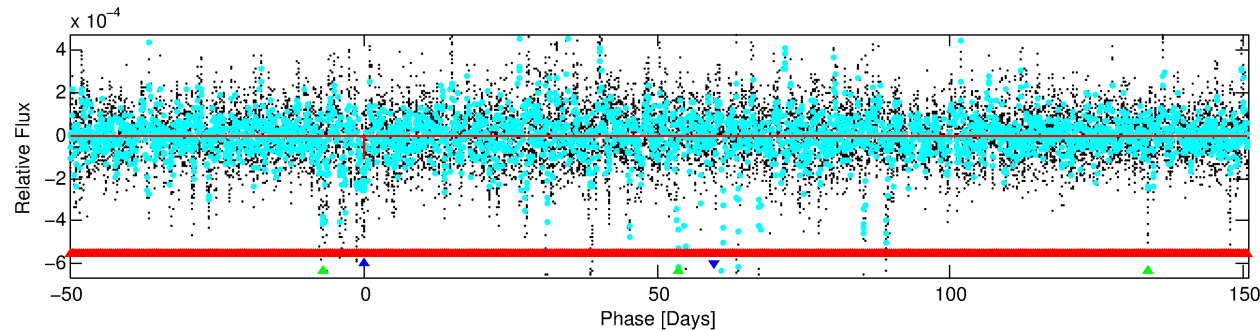
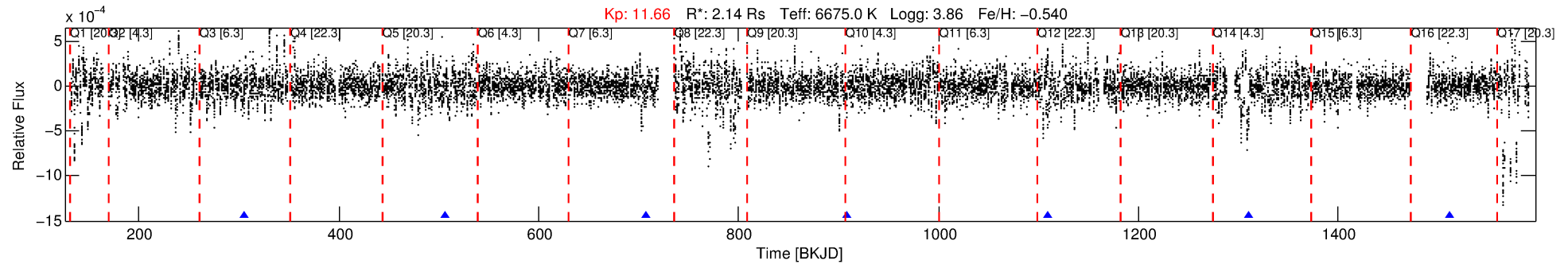
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005042270-02

No Significant Match Found

DV One-Page Summary

KIC: 5042270 Candidate: 2 of 3 Period: 201.010 d



DV Fit Results:

Period = 201.00977 [0.00782] d
Epoch = 304.9074 [0.0307] BKJD
Rp/R* = 0.0104 [0.0081]
a/R* = 126.30 [511.07]
b = 0.80 [1.78]
Seff = 15.79 [8.25]
Teq = 508 [66] K
Rp = 2.43 [2.07] Re
a = 0.7173 [0.2295] AU
Ag = 6177.62 [10431.23] [0.59σ]
Teffp = 6967 [2809] K [2.30σ]

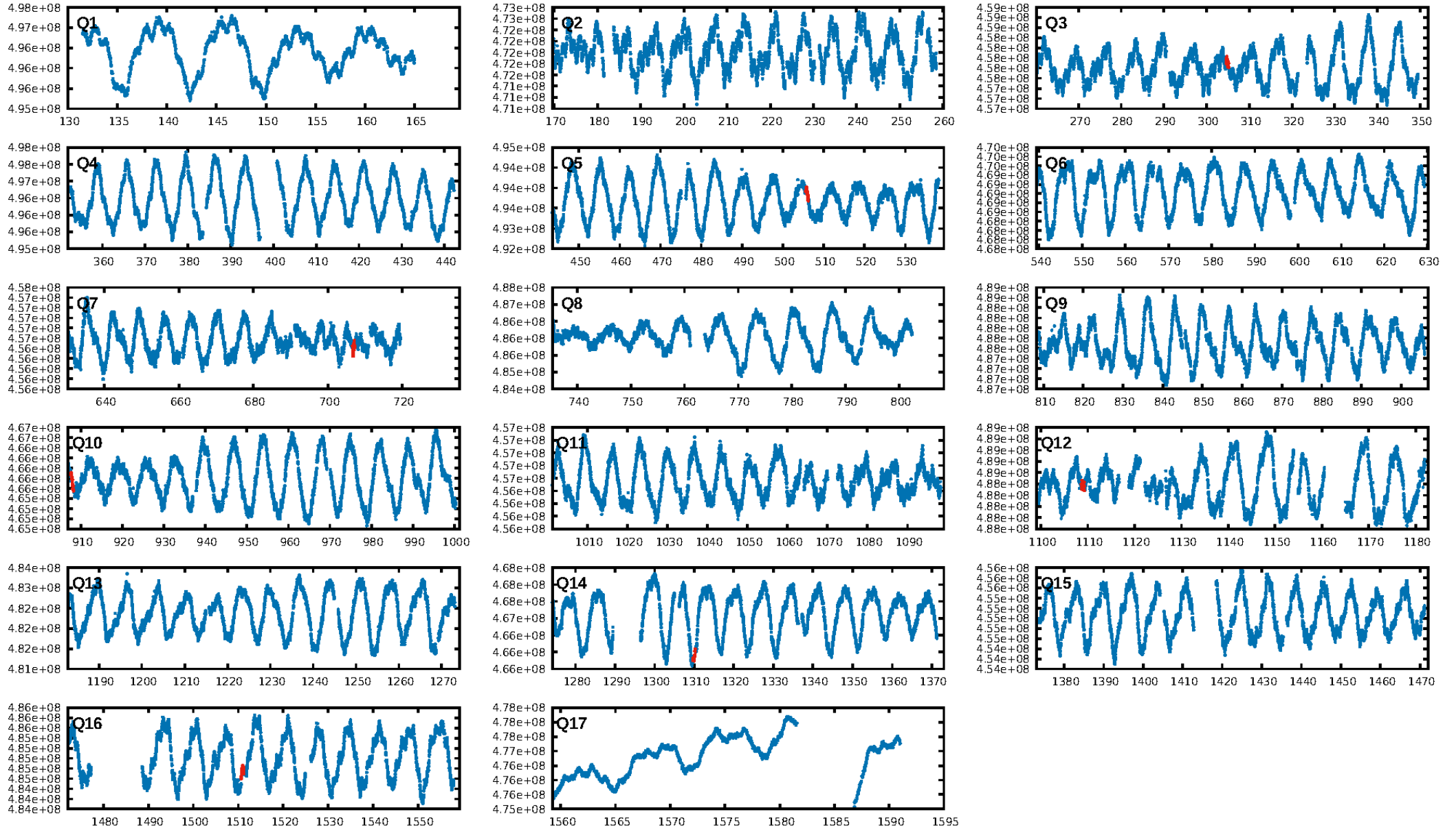
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [454.52σ]
LongPeriod-sig: 100.0% [930.45σ]
ModelChiSquare2-sig: 3.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.06e-20
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -0.8226
Centroid-sig: 0.3%
Centroid-so: 2.512 arcsec [1.72σ]
OotOffset-rm: 0.109 arcsec [0.43σ]
KicOffset-rm: 0.106 arcsec [0.38σ]
OotOffset-st: 1/2/2/0 [5]
KicOffset-st: 1/2/2/0 [5]
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DiffImageOverlap-fno: 0.00 [0/5]

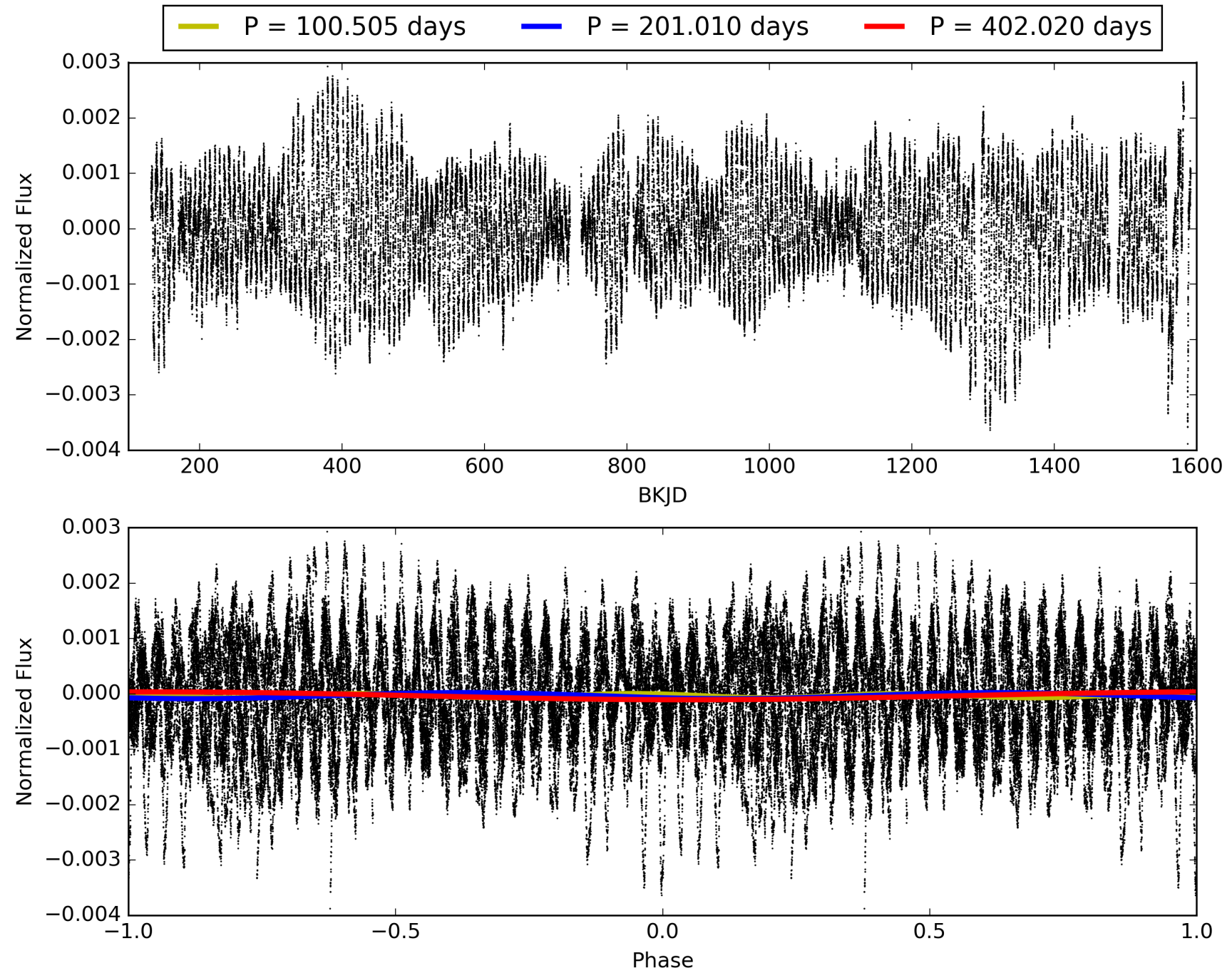
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:04:11 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005042270-02, PDC Light Curves

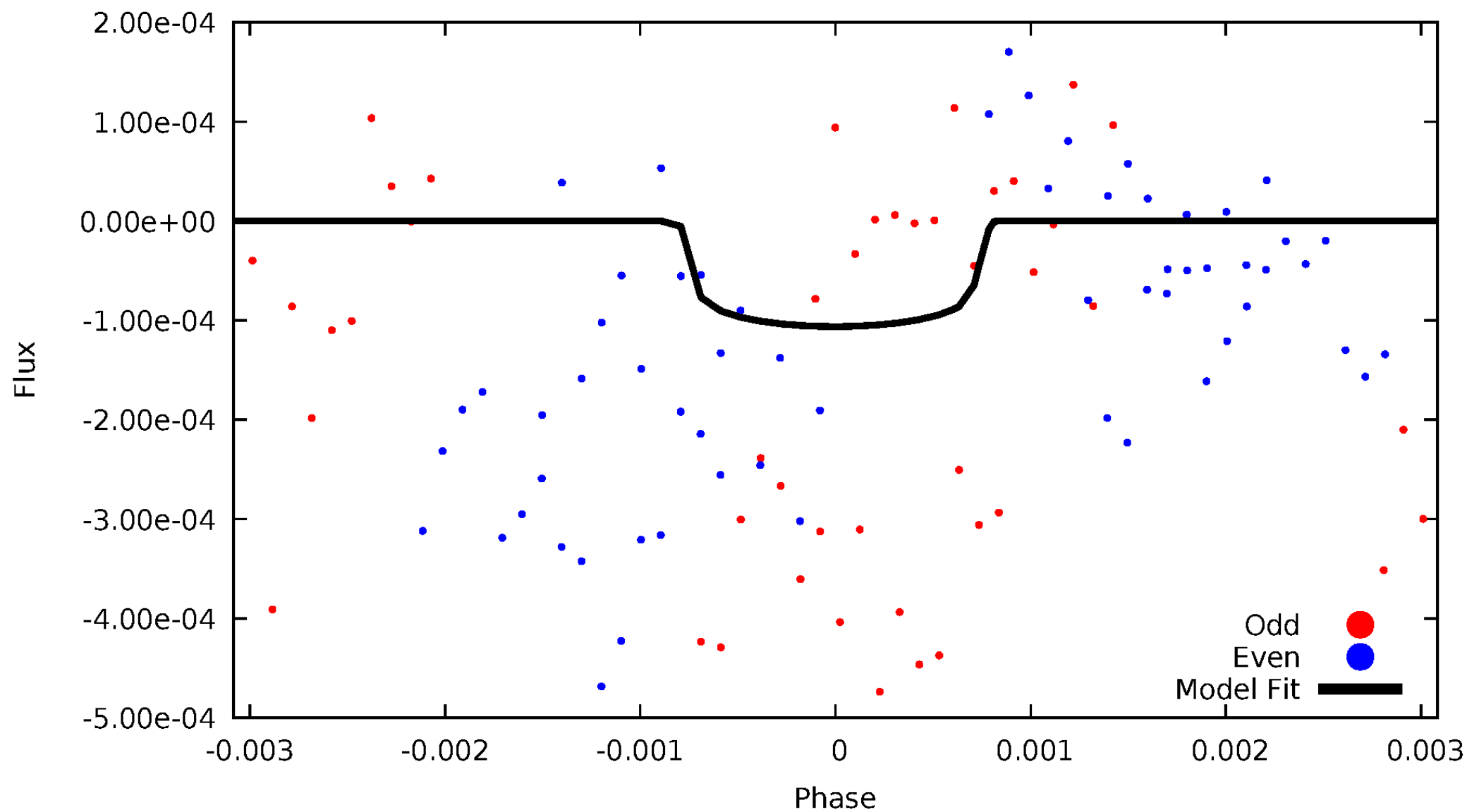


TCE 005042270-02



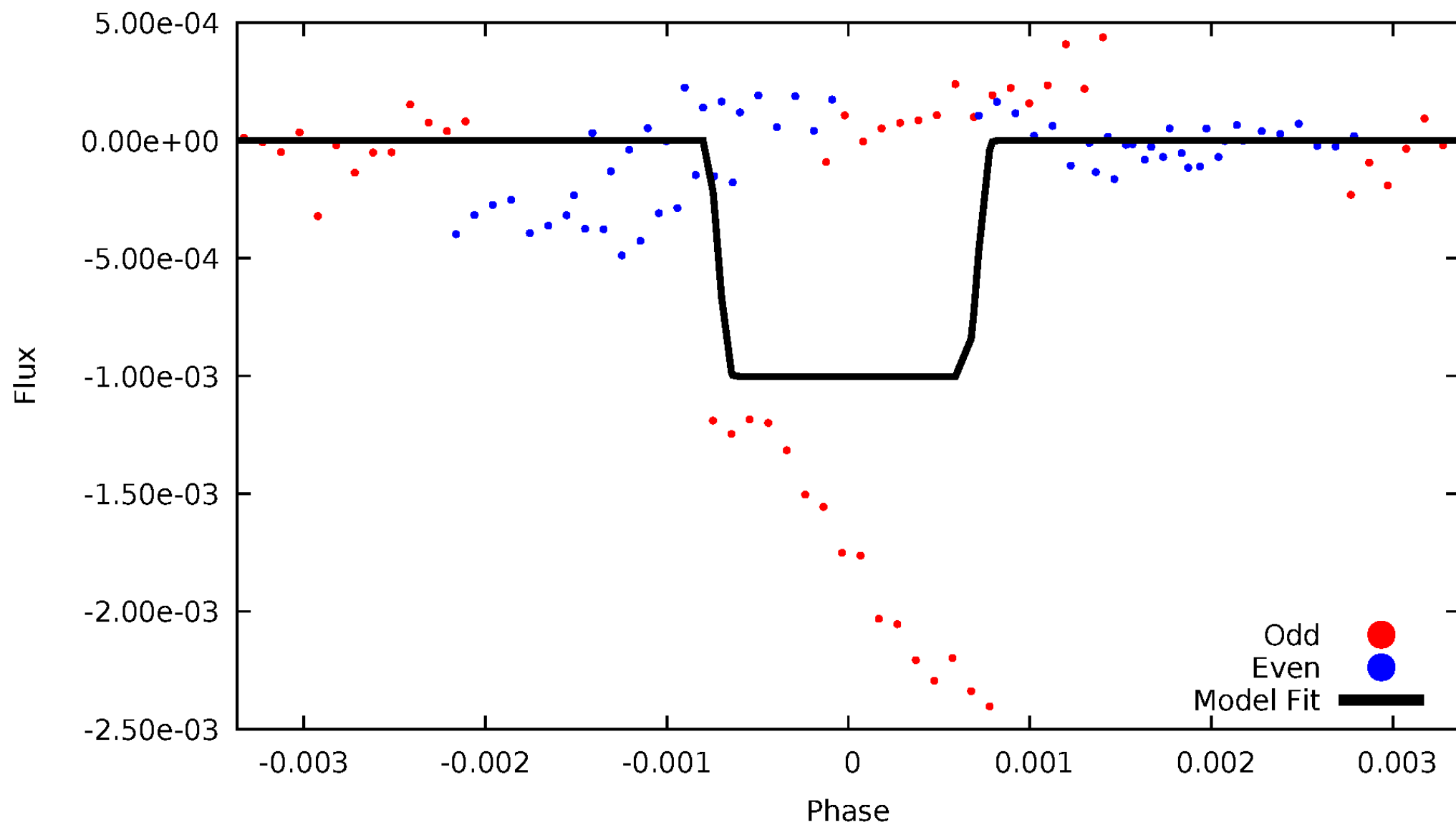
DV Odd/Even

TCE 005042270-02



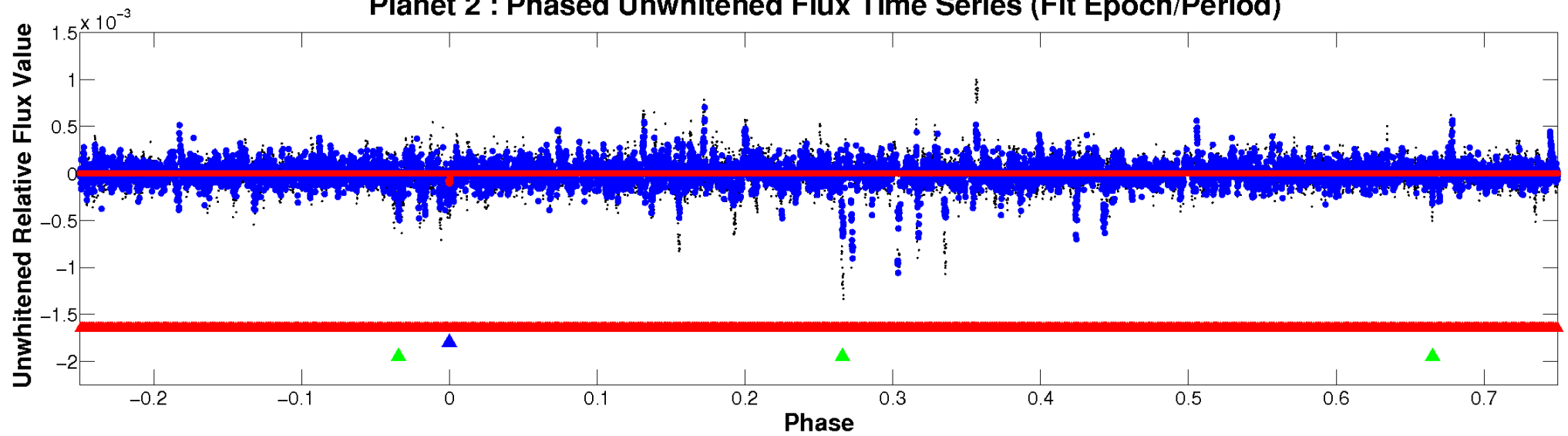
ALT Odd/Even

TCE 005042270-02

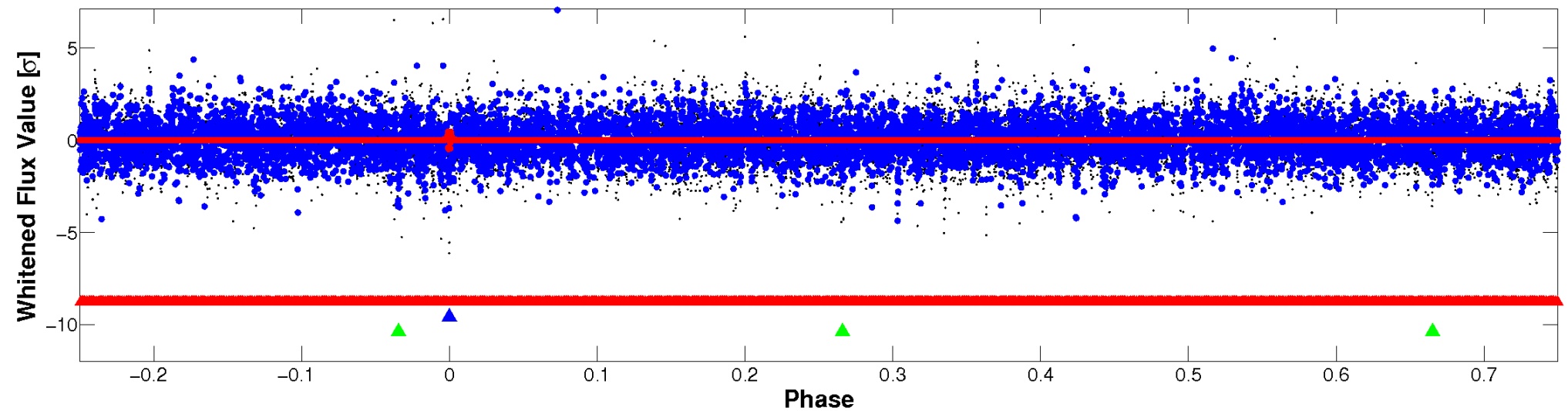


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

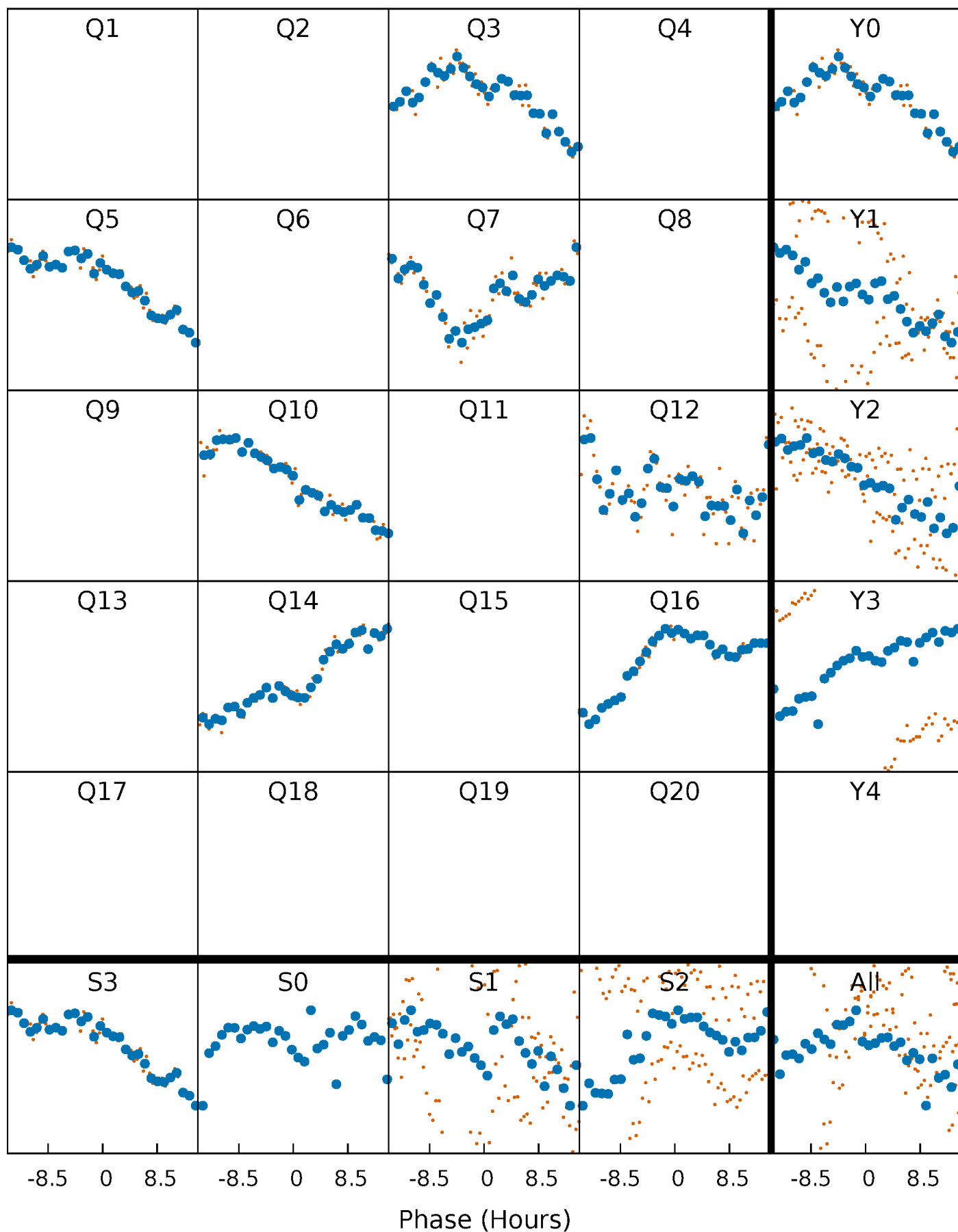


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



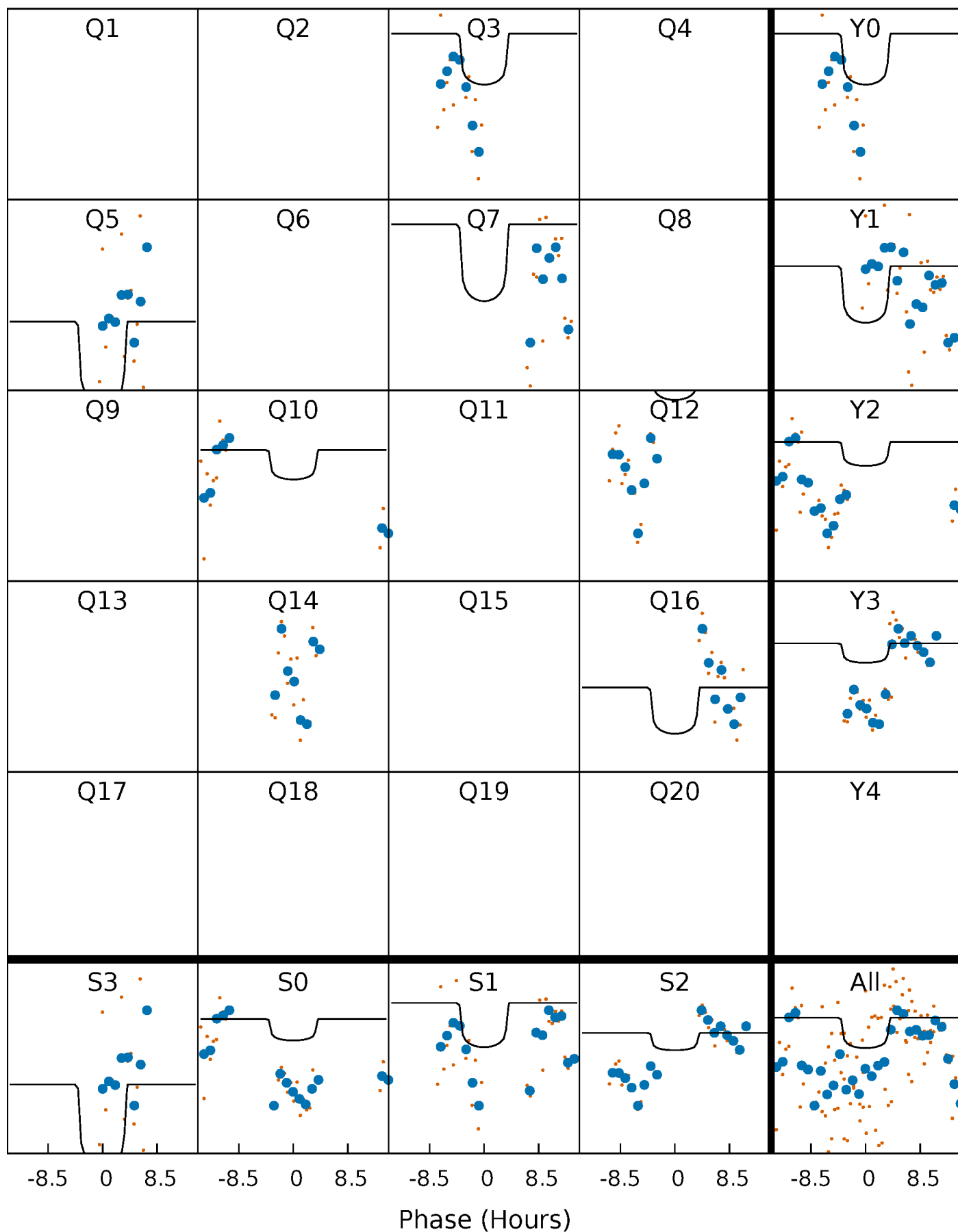
PDC Quarter-Phased Transit Curves

TCE 005042270-02 $P=201.009765$ Days $T_0=304.907441$ (BKJD)



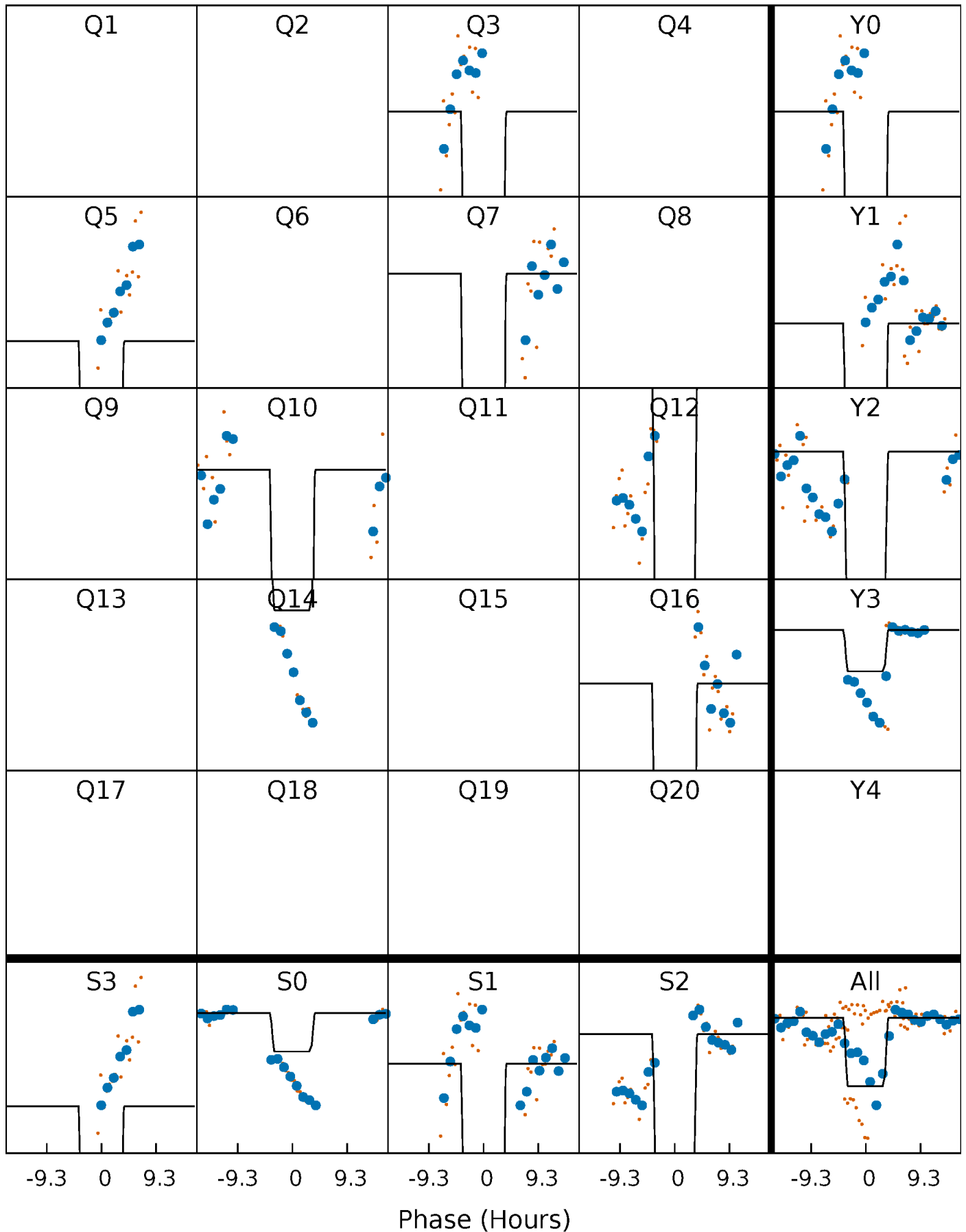
DV Quarter-Phased Transit Curves

TCE 005042270-02 $P=201.009765$ Days $T_0=304.907441$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

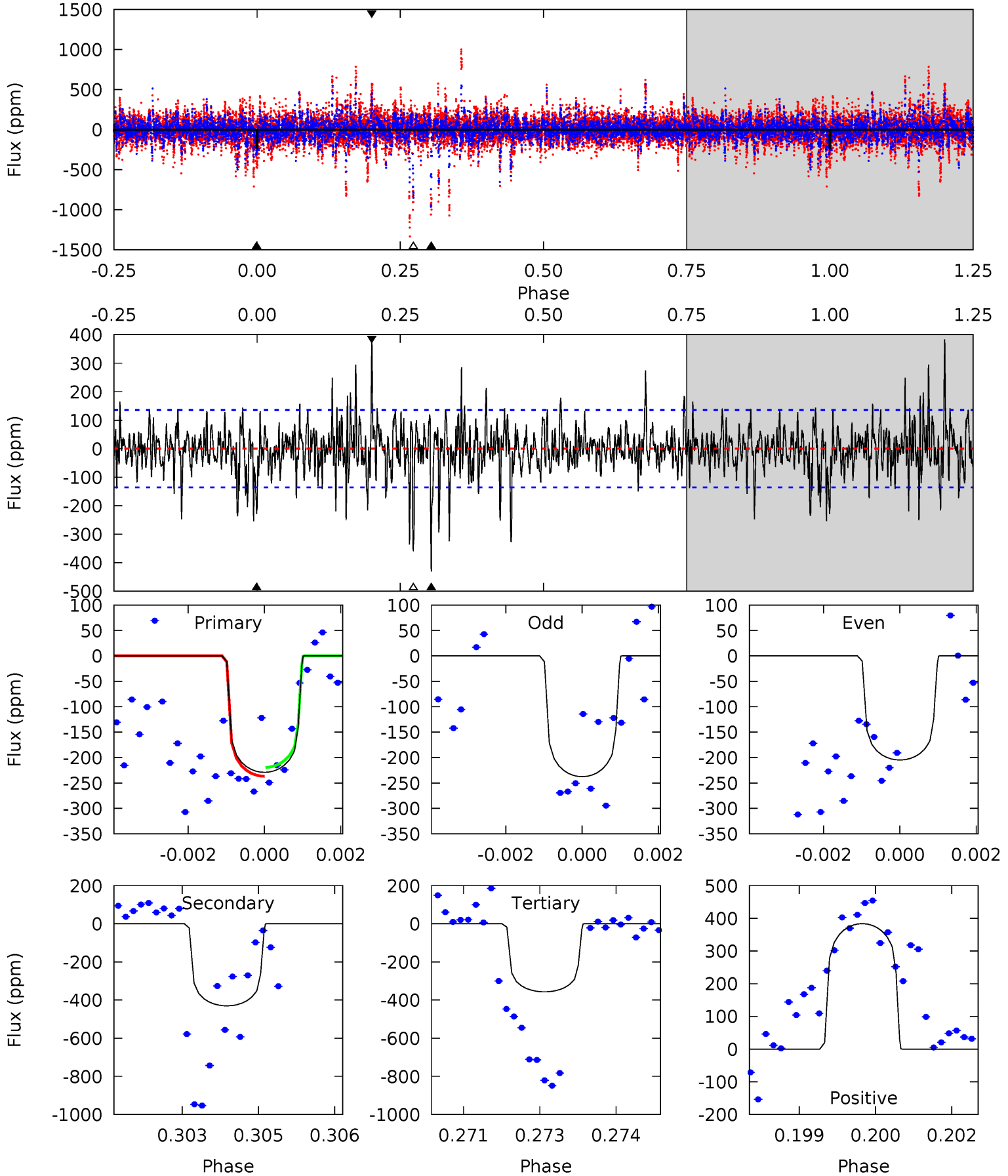
TCE 005042270-02 P=201.011741 Days $T_0=304.909272$ (BKJD)



DV Model-Shift Uniqueness Test

005042270-02, P = 201.009765 Days, E = 103.897676 Days

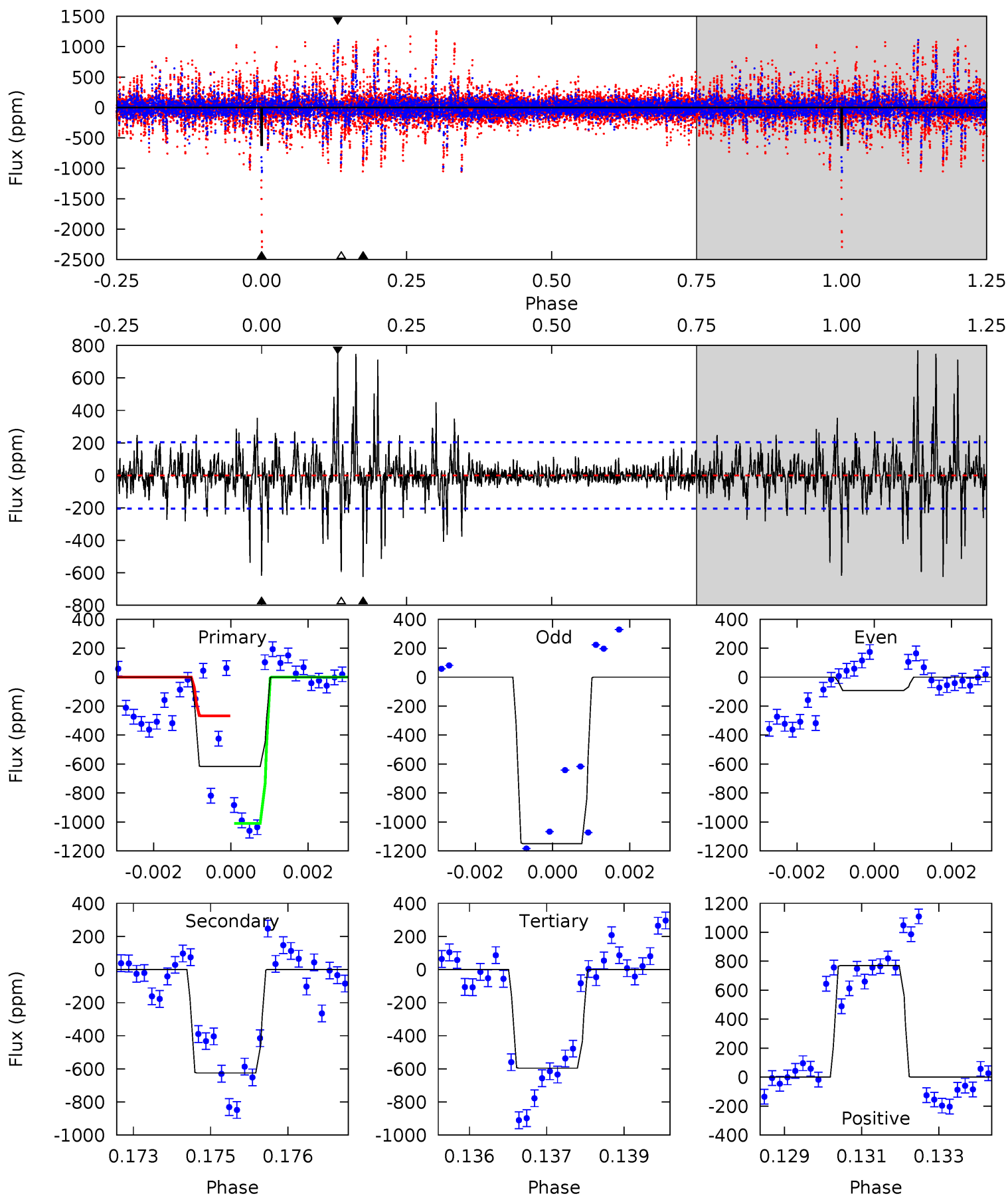
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.07	17.0	14.1	15.2	5.37	3.16	2.82	-5.07	-6.12	2.91	1.86	0.58	0.89	0.47	0.34



Alt Model-Shift Uniqueness Test

005042270-02, P = 201.011741 Days, E = 103.897531 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.2	16.4	15.6	20.2	5.37	3.16	2.74	0.57	-4.00	0.78	-3.79	12.4	6.87	0.55	9.85



Stellar Parameters For KIC 005042270

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6675^{+162}_{-183}	$3.864^{+0.300}_{-0.100}$	$-0.540^{+0.300}_{-0.300}$	$2.137^{+0.384}_{-0.712}$	$1.218^{+0.224}_{-0.204}$	$0.176^{+0.358}_{-0.054}$
	+2%/-3%	+8%/-3%	+56%/-56%	+18%/-33%	+18%/-17%	+204%/-31%
Source	PHO1	FLK73	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 005042270-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-430 ± 25	$2.34^{+1.85}_{-1.40}$	700^{+39}_{-58}	10047^{+14972}_{-2961}	$22513^{+121132}_{-15261}$
Alt.	-625 ± 38	$6.99^{+2.21}_{-1.99}$	696^{+41}_{-59}	5900^{+973}_{-622}	3644^{+3363}_{-1514}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

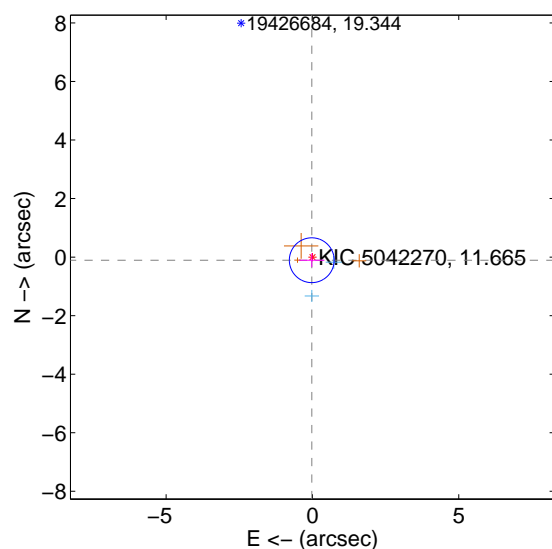
Supplemental centroid analysis for 005042270-02. **Kepler magnitude: 11.66.** Transit SNR 2.81

There are 2 quarters with good PRF difference image offsets

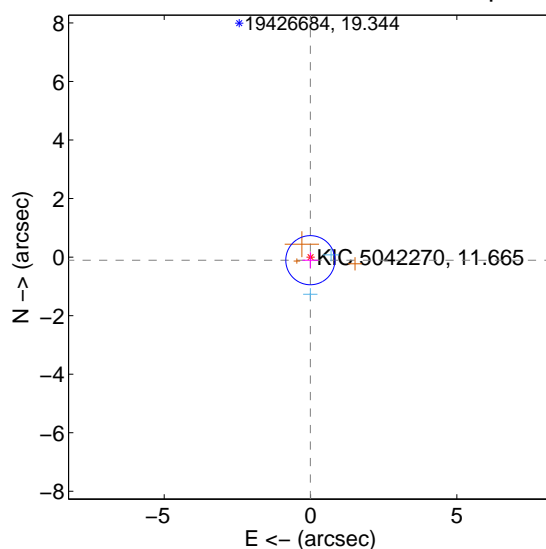
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.109 ± 0.255	0.43	0.023 ± 0.432	-0.107 ± 0.237
PRF-fit source offset from KIC position	0.106 ± 0.280	0.38	0.006 ± 0.273	-0.106 ± 0.279
photometric centroid source offset	2.51 ± 1.46	1.72	0.67 ± 1.76	-2.42 ± 1.43

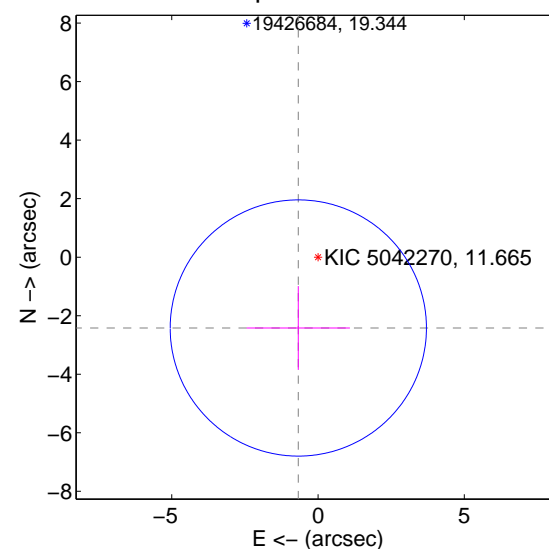
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

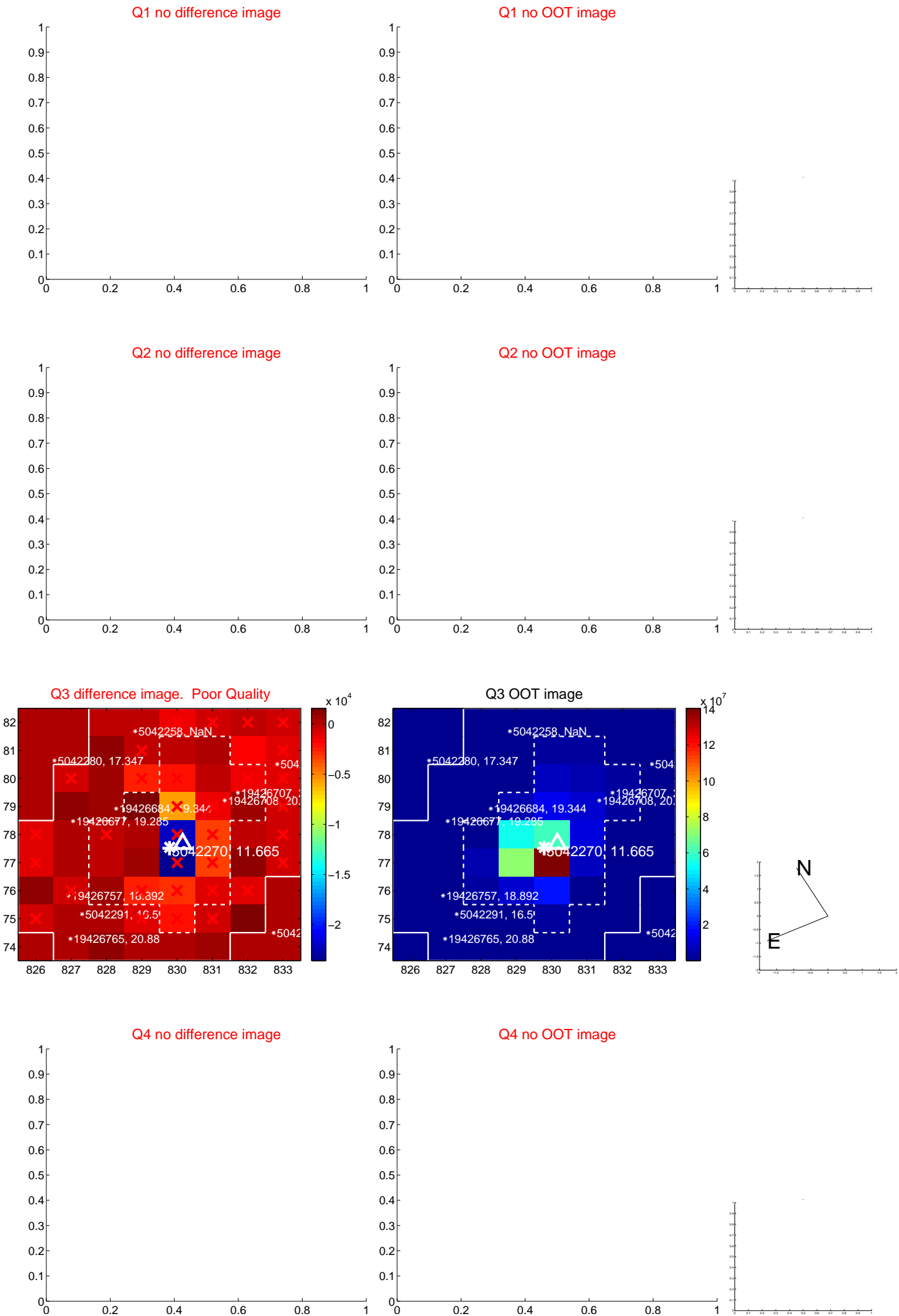


offset from photometric centroids

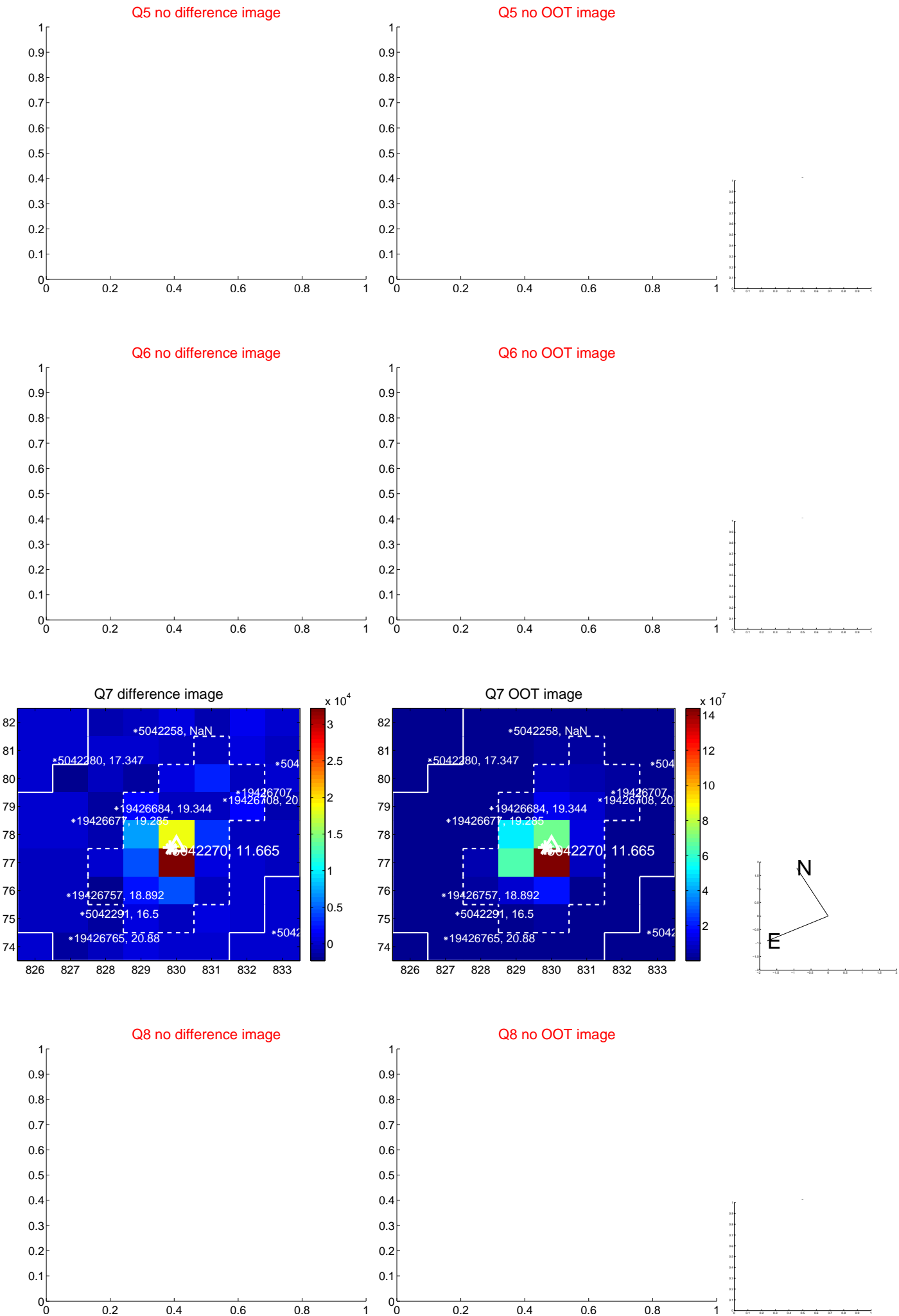


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

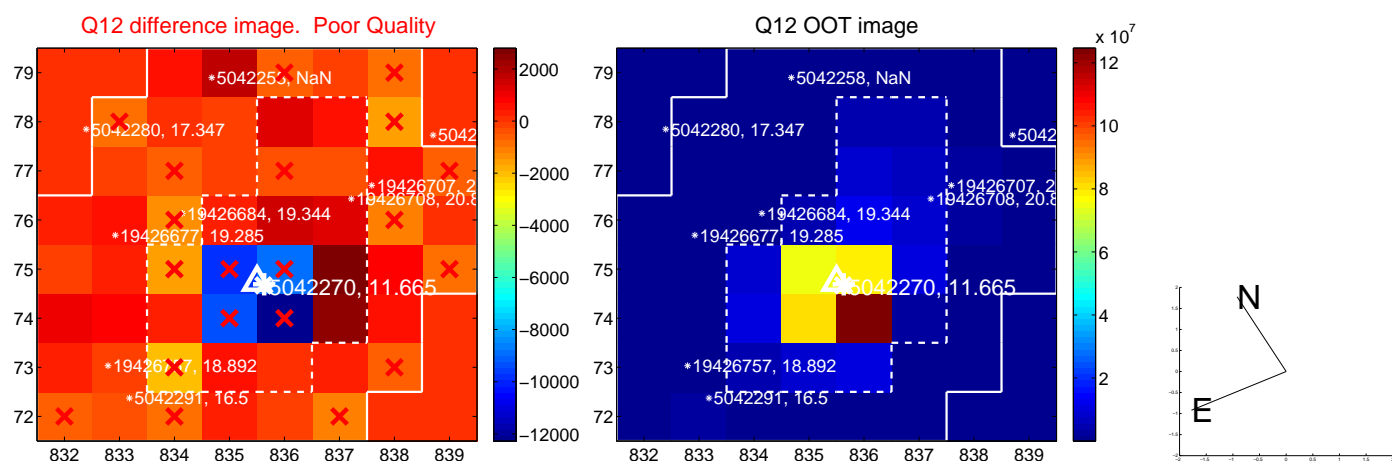
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



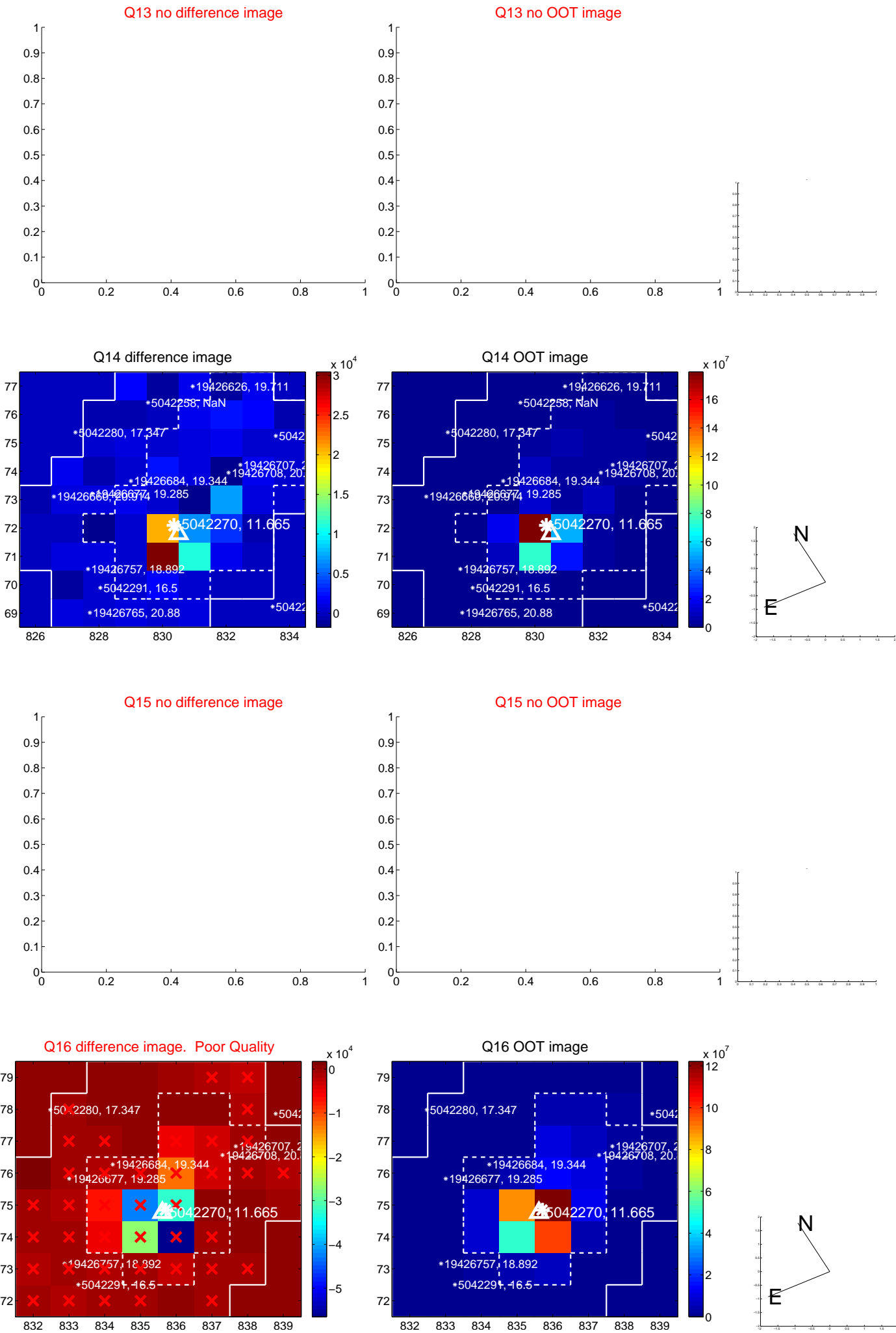
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



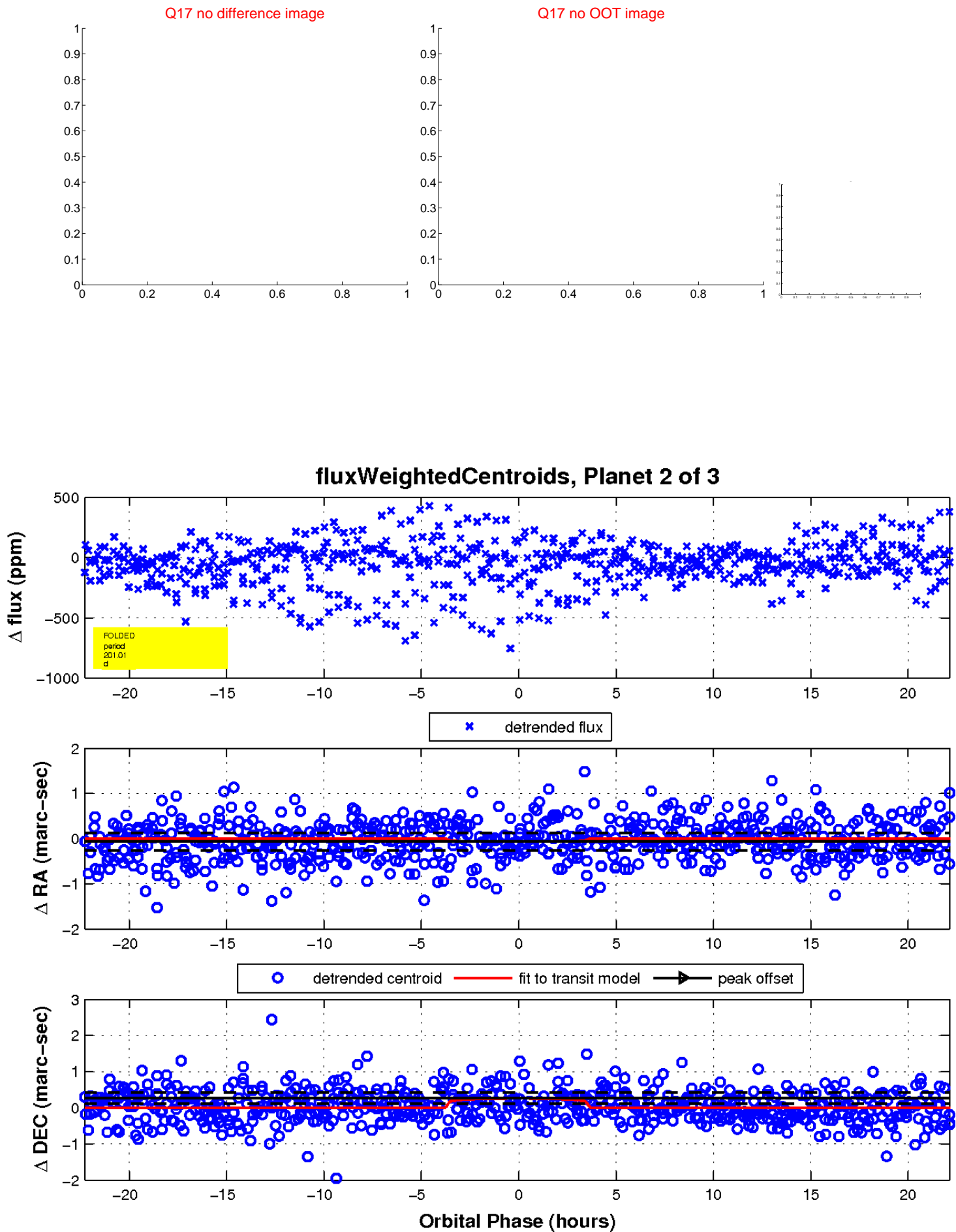
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

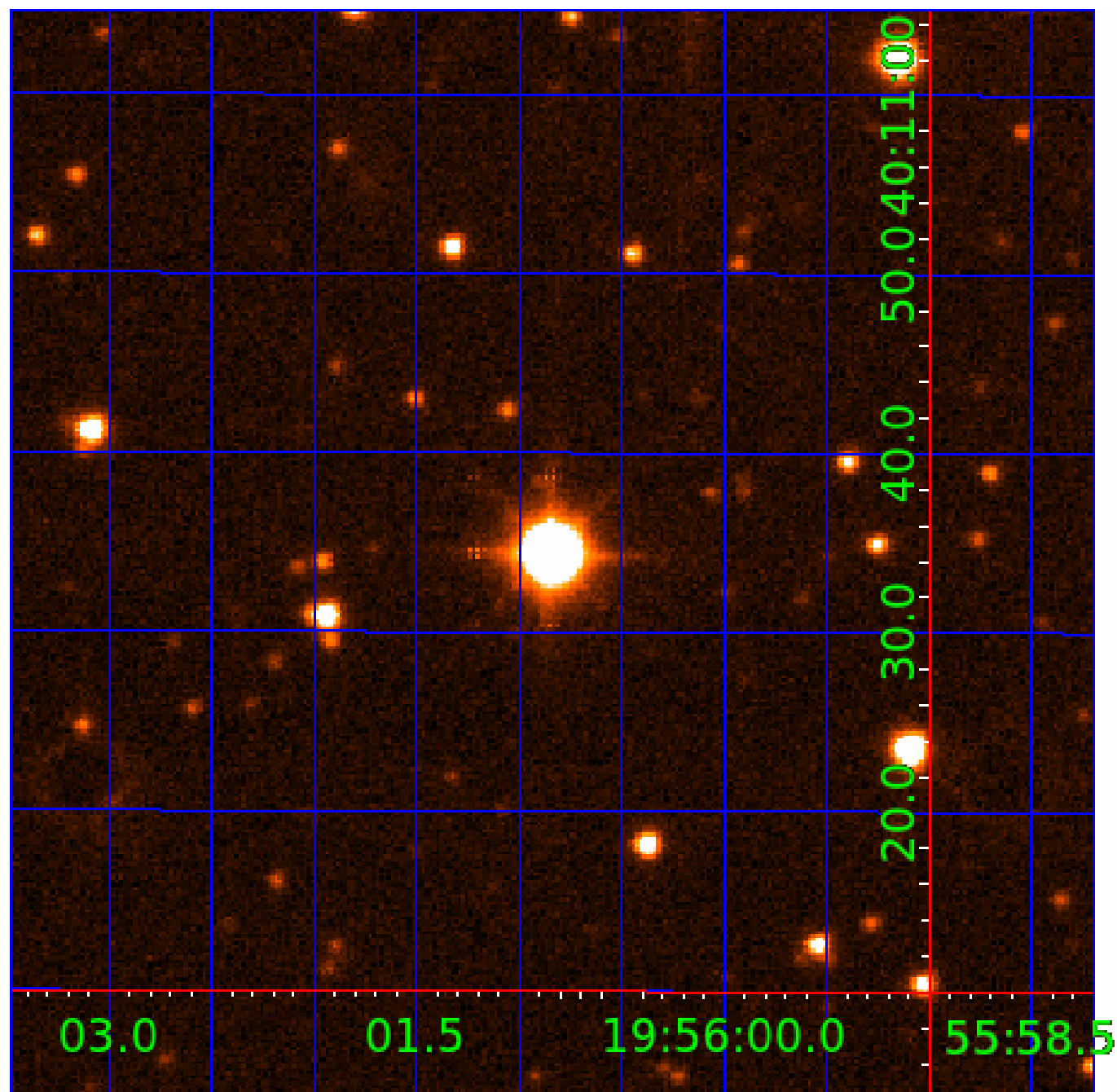


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005042270

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
005042270-01	OBS	No	1.266022	131.939872	7.5	7.479	7.3	4.6	2.14	6675	0.68	13572.12
005042270-02	OBS	No	201.009765	304.907441	106.2	7.436	14.2	2.8	2.14	6675	2.43	15.79
005042270-03	OBS	No	663.404409	237.622715	504.5	9.325	13.3	12.7	2.14	6675	5.59	3.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005042270-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005042270-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005042270-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

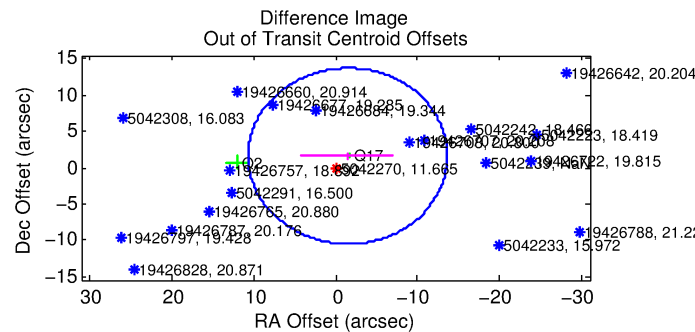
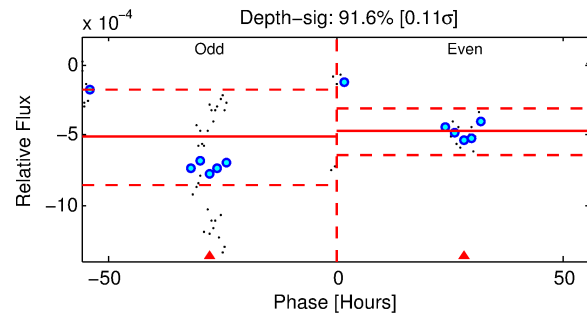
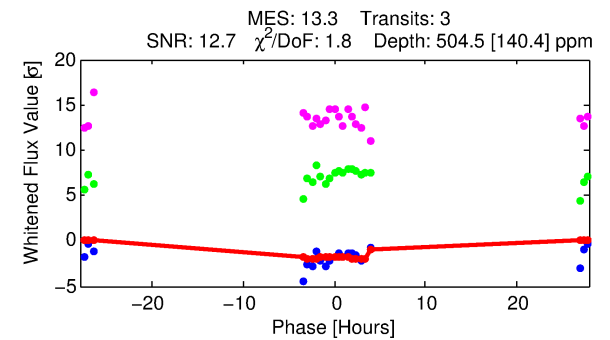
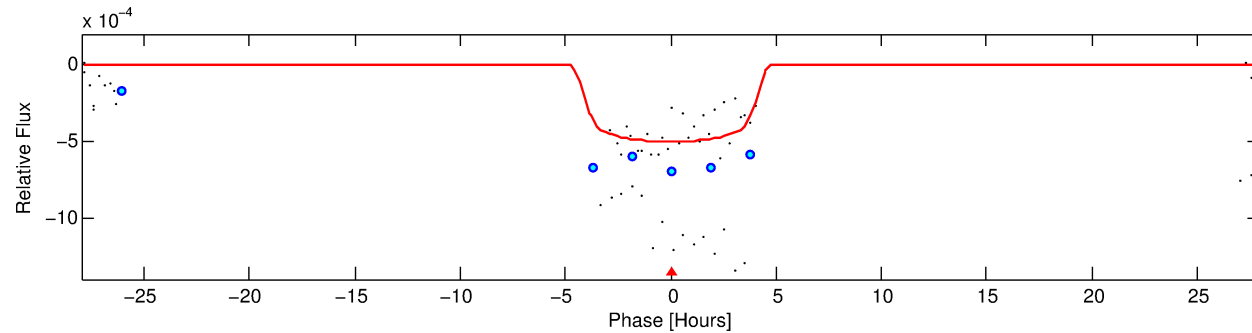
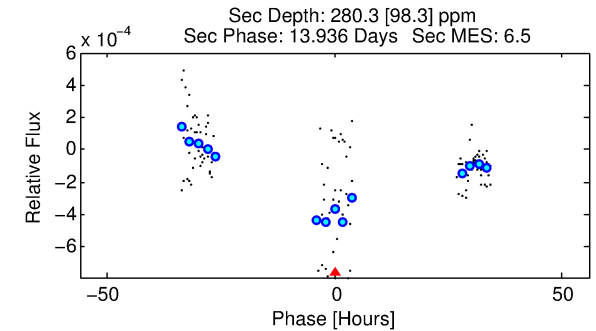
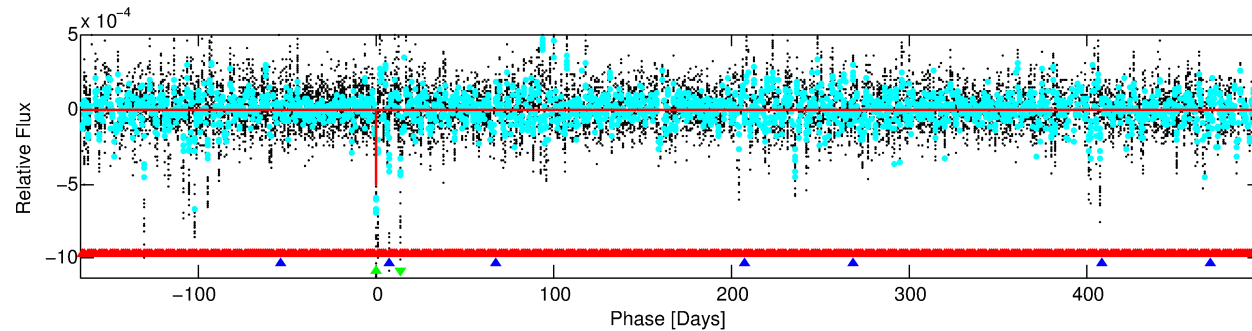
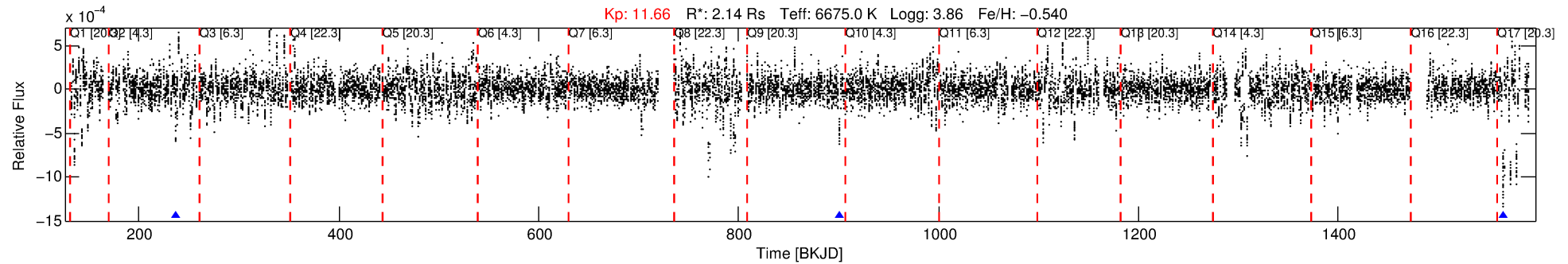
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005042270-03

No Significant Match Found

DV One-Page Summary

KIC: 5042270 Candidate: 3 of 3 Period: 663.404 d



DV Fit Results:

Period = 663.40441 [0.02314] d
Epoch = 237.6227 [0.0401] BKJD
Rp/R* = 0.0240 [0.0087]
a/R* = 266.75 [470.02]
b = 0.90 [0.34]
Seff = 3.21 [1.68]
Teq = 341 [45] K
Rp = 5.59 [2.75] Re
a = 1.5901 [0.5087] AU
Ag = 12493.57 [11905.21] [1.05σ]
Teffp = 5580 [1132] K [4.62σ]

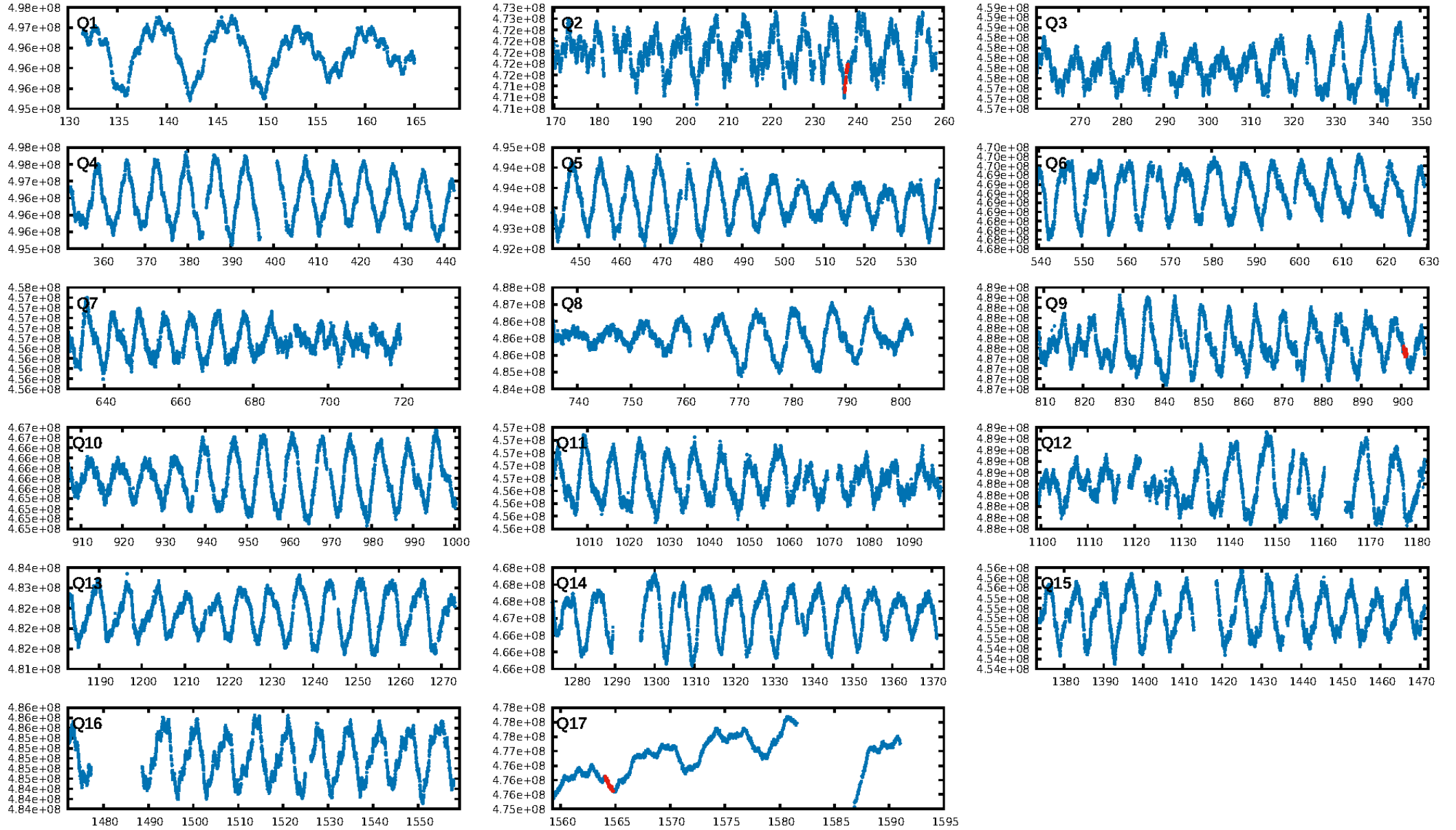
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [930.45σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 57.4%
Bootstrap-pfa: 1.38e-15
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -0.3724
Centroid-sig: 92.2%
Centroid-so: 0.123 arcsec [0.23σ]
OotOffset-rm: 2.172 arcsec [0.54σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-rm: 2.141 arcsec [0.42σ]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 0.00 [0/3]

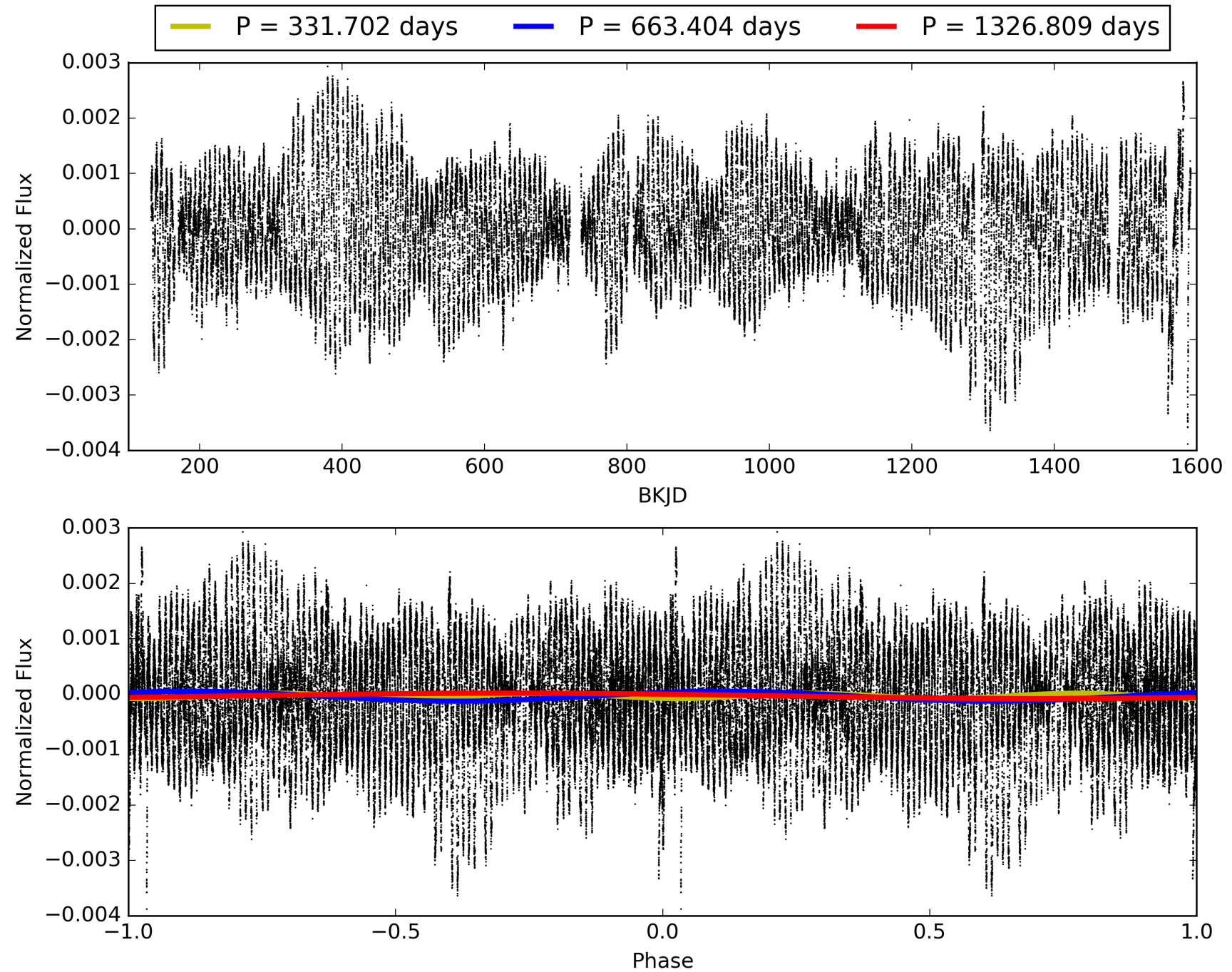
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:04:17 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005042270-03, PDC Light Curves

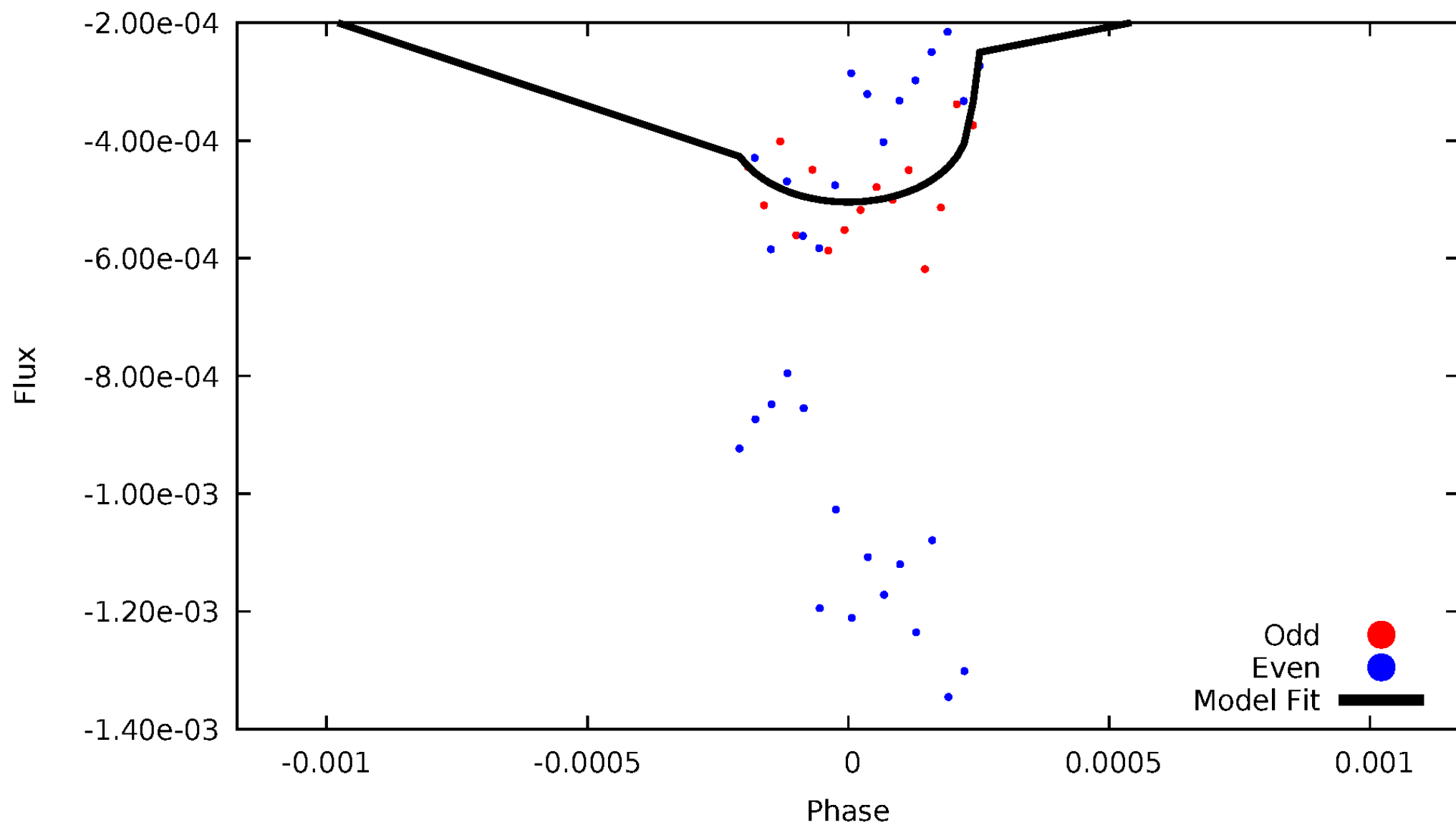


TCE 005042270-03



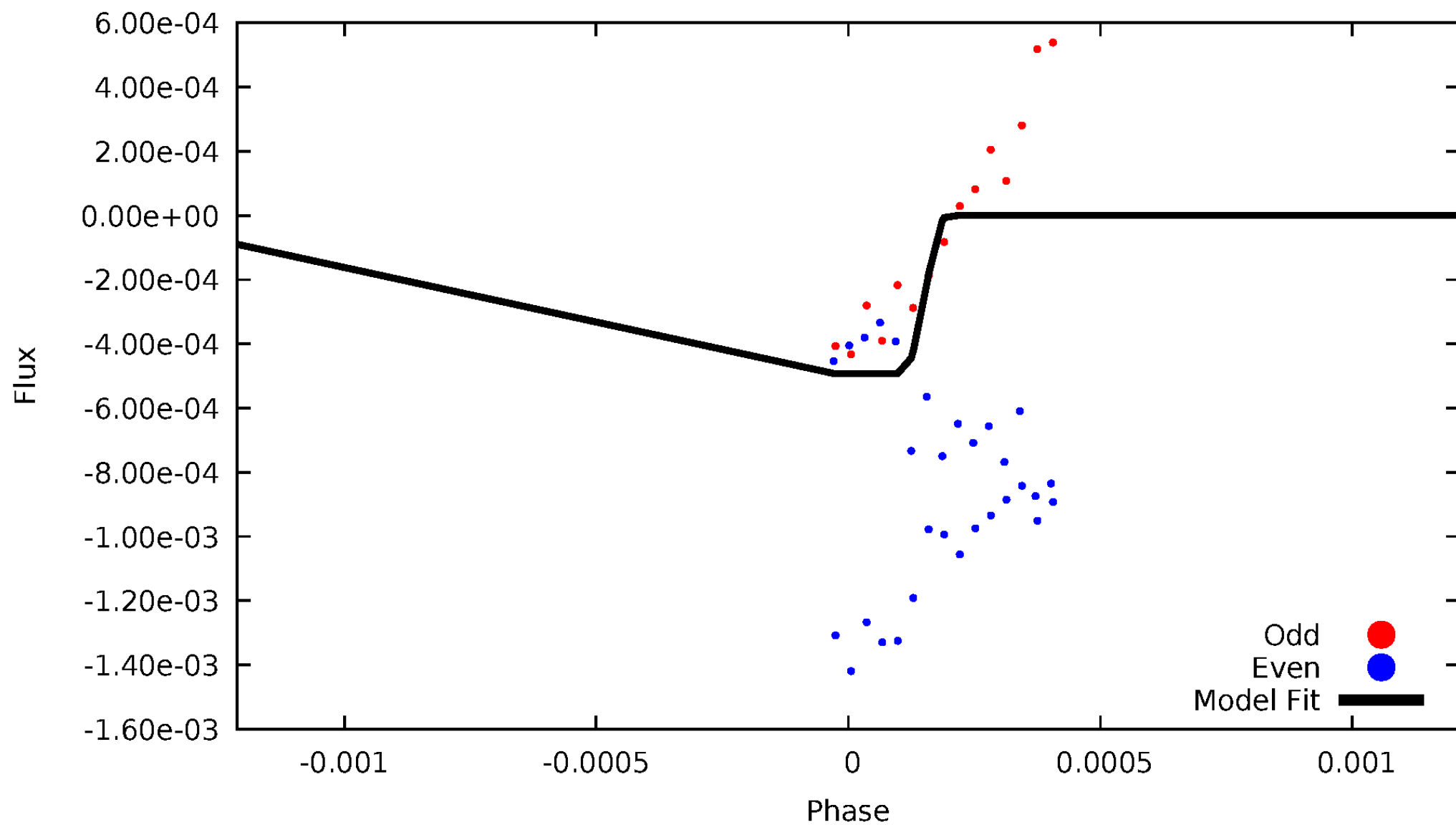
DV Odd/Even

TCE 005042270-03

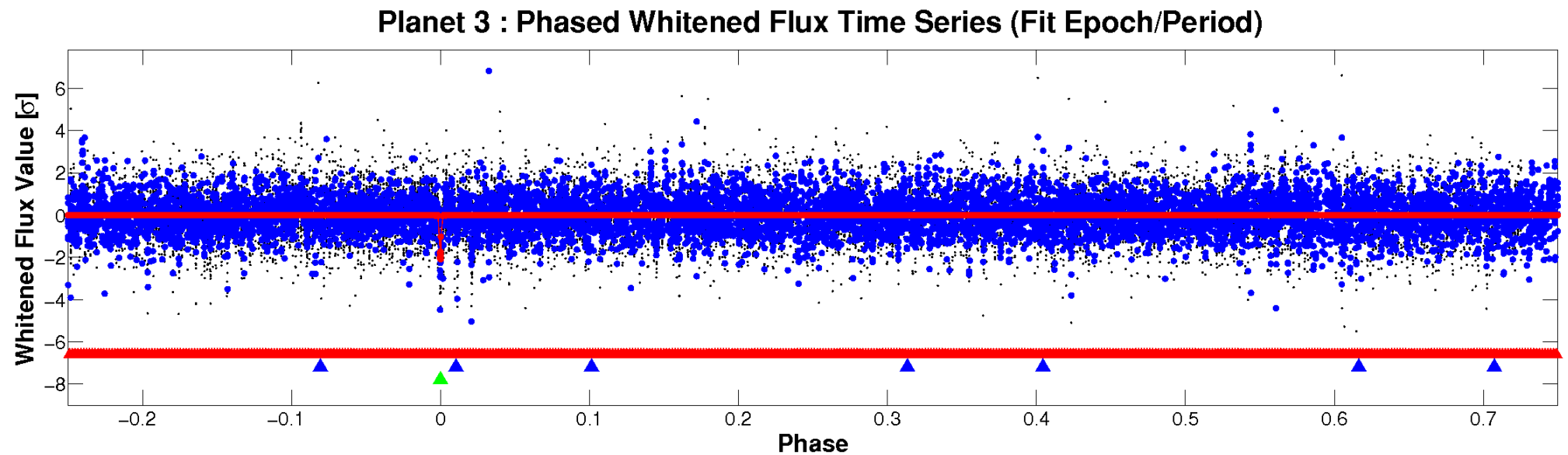
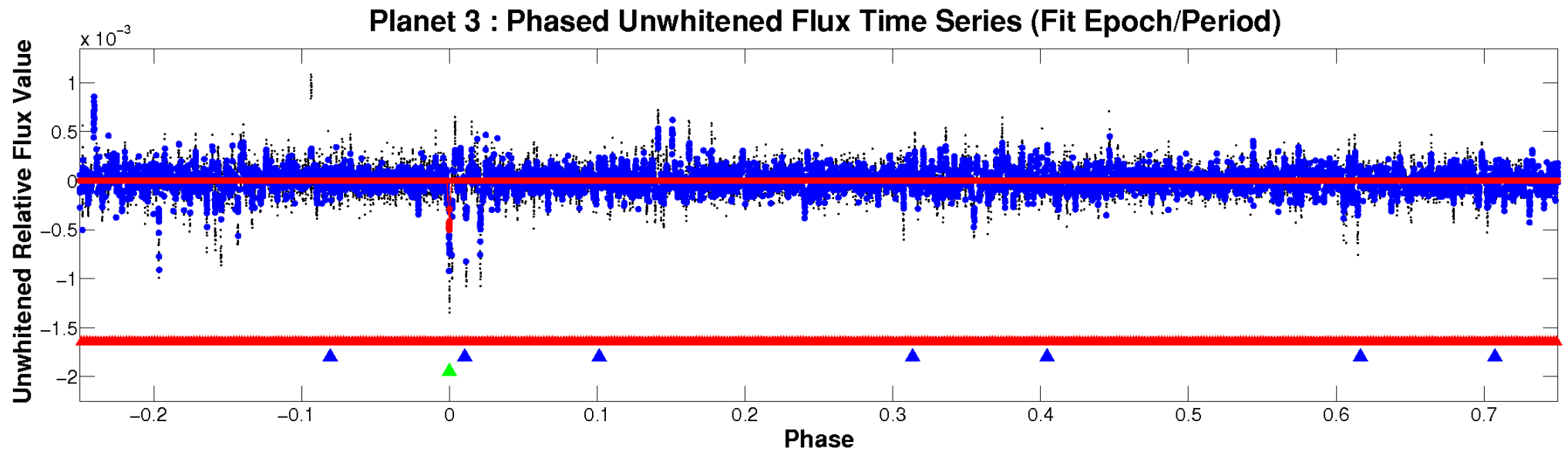


ALT Odd/Even

TCE 005042270-03

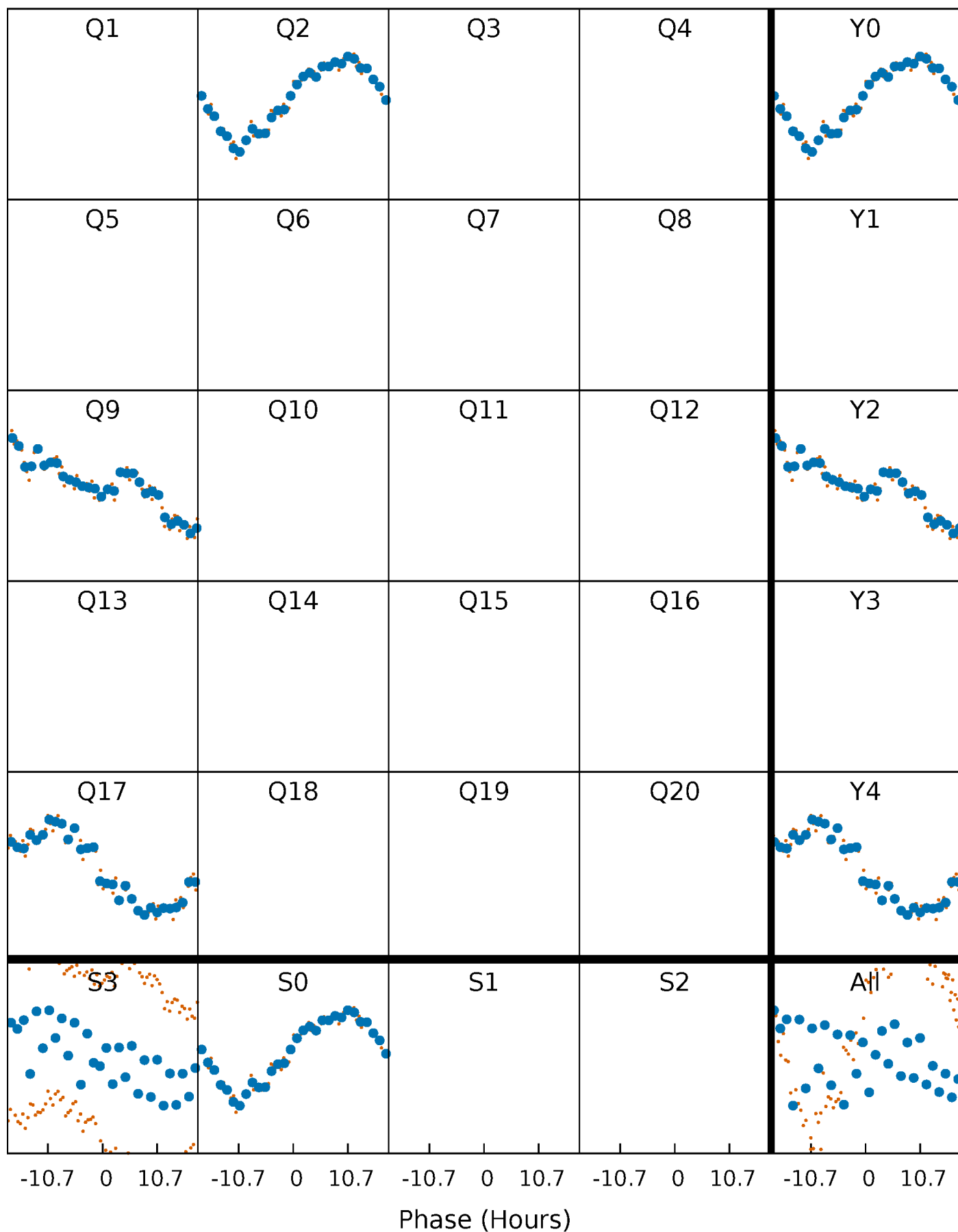


Non-Whitened Vs. Whitened Light Curve



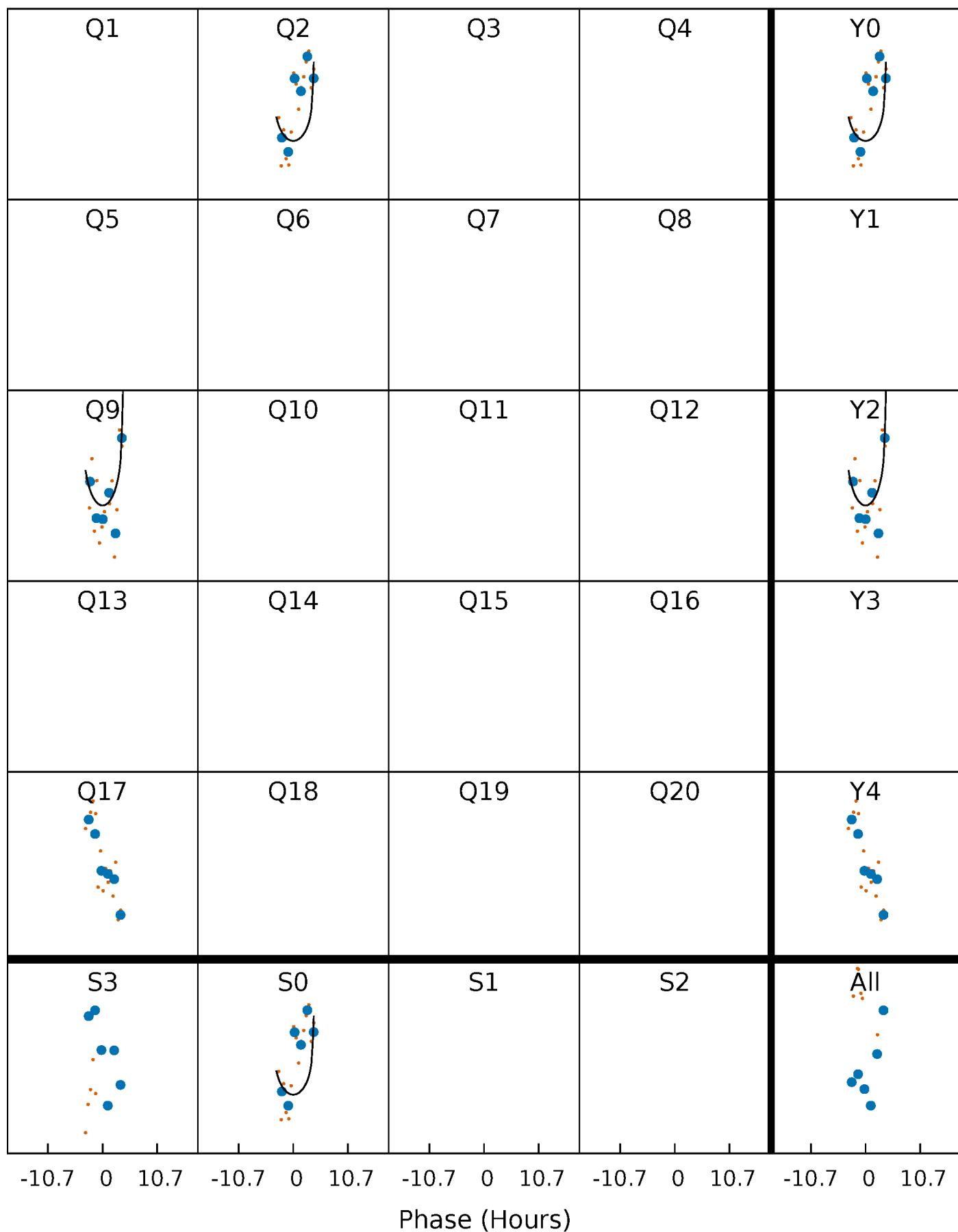
PDC Quarter-Phased Transit Curves

TCE 005042270-03 $P=663.404410$ Days $T_0=237.622715$ (BKJD)



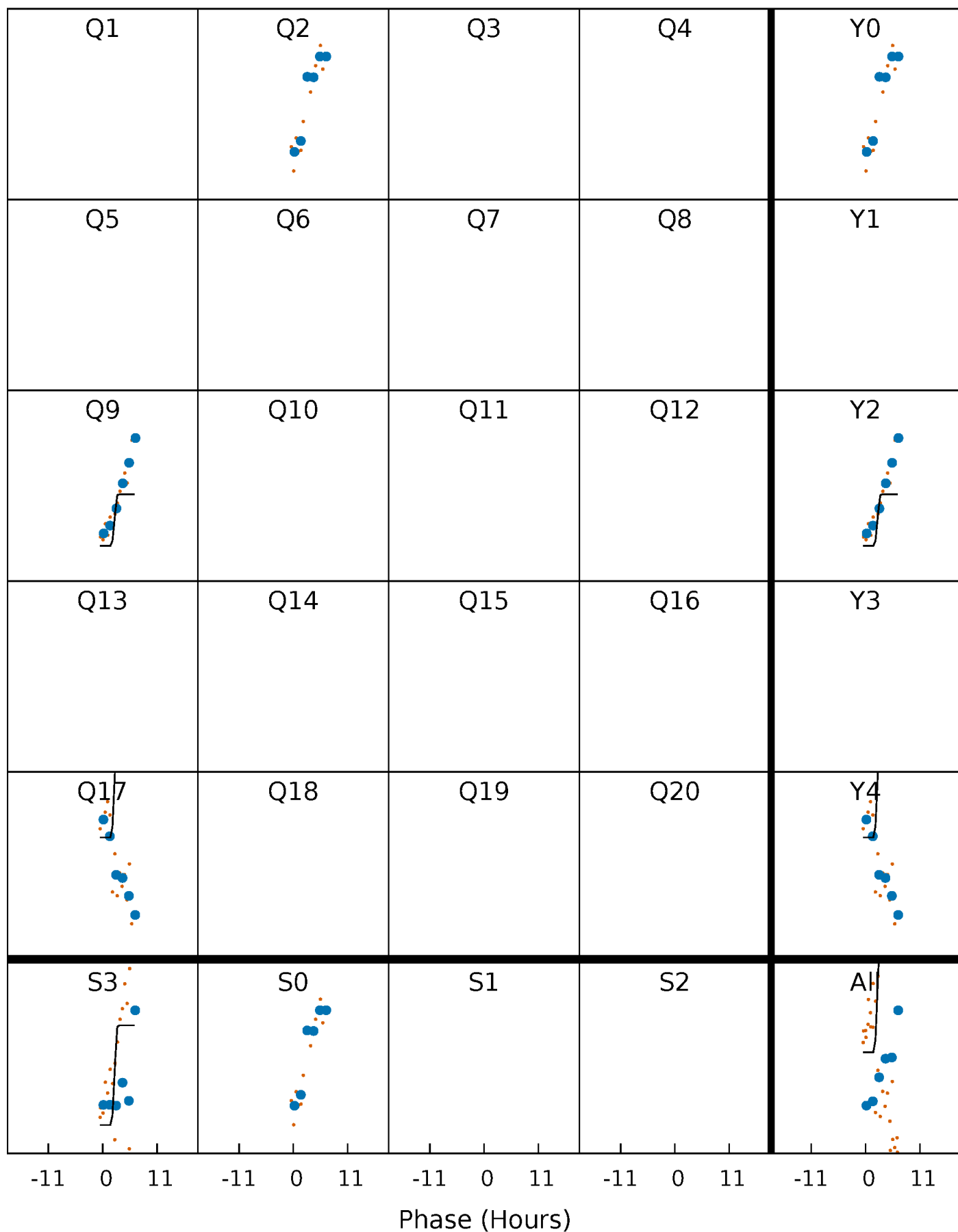
DV Quarter-Phased Transit Curves

TCE 005042270-03 P=663.404410 Days $T_0=237.622715$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

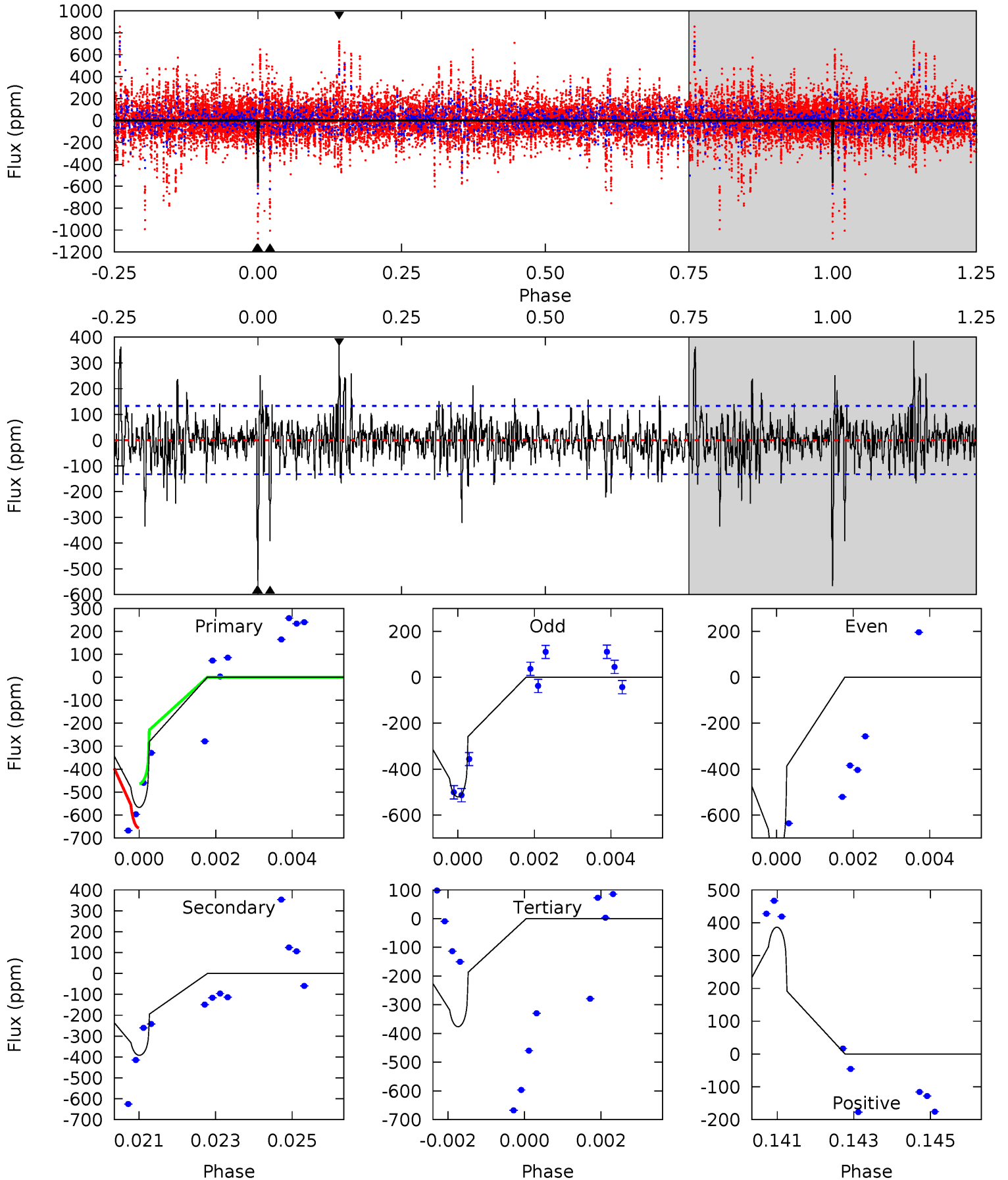
TCE 005042270-03 P=663.395959 Days $T_0=237.520545$ (BKJD)



DV Model-Shift Uniqueness Test

005042270-03, P = 663.404410 Days, E = 237.622715 Days

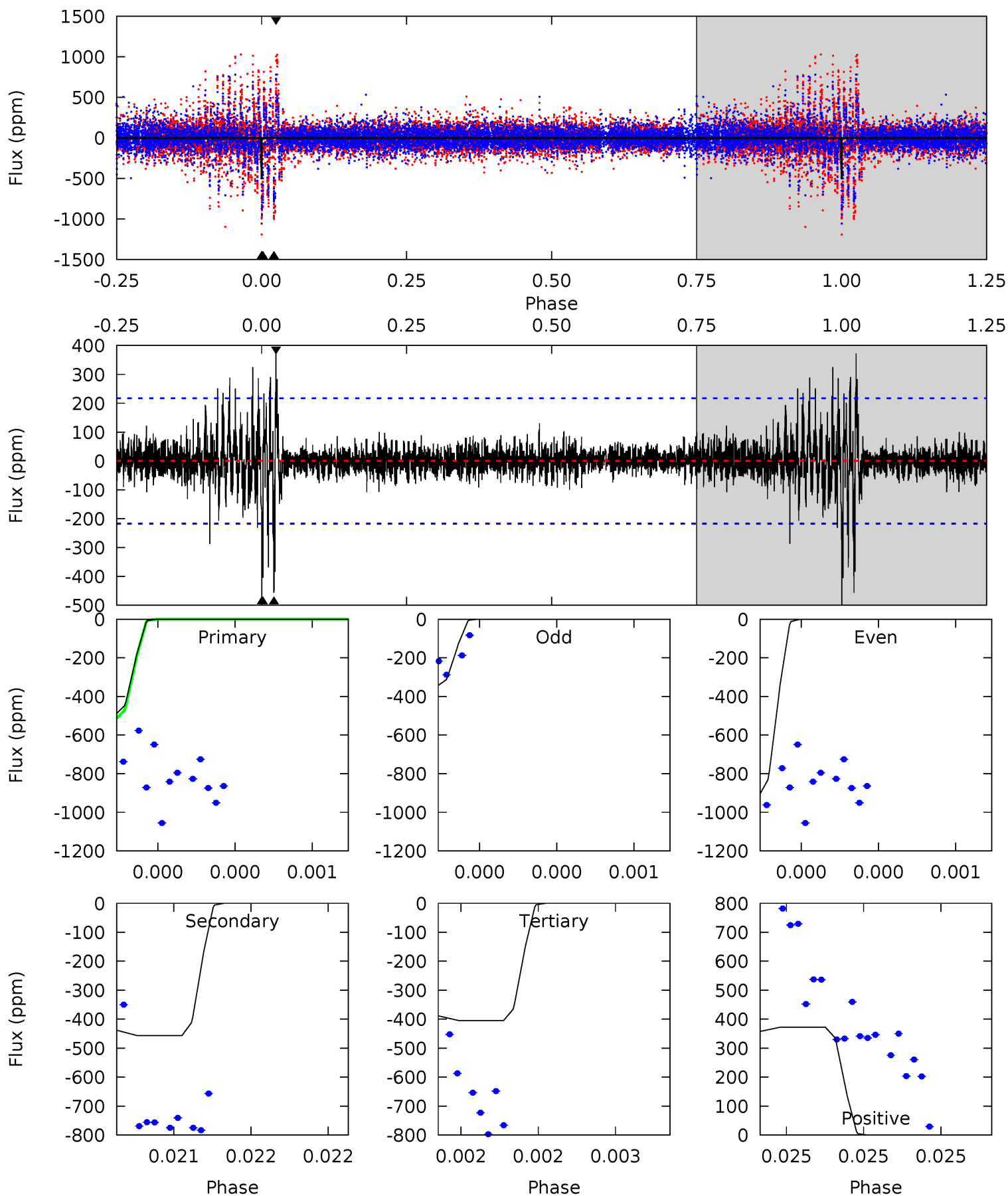
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.8	15.8	15.2	15.6	5.34	3.10	2.75	7.67	7.27	0.63	0.23	5.46	1.33	0.41	3.87



Alt Model-Shift Uniqueness Test

005042270-03, P = 663.395959 Days, E = 237.520545 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	12.0	10.6	9.79	5.71	3.70	1.37	2.41	3.26	1.36	2.21	7.58	1.52	0.43	0



Stellar Parameters For KIC 005042270

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6675^{+162}_{-183}	$3.864^{+0.300}_{-0.100}$	$-0.540^{+0.300}_{-0.300}$	$2.137^{+0.384}_{-0.712}$	$1.218^{+0.224}_{-0.204}$	$0.176^{+0.358}_{-0.054}$
	+2%/-3%	+8%/-3%	+56%/-56%	+18%/-33%	+18%/-17%	+204%/-31%
Source	PHO1	FLK73	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 005042270-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-392 ± 25	$5.02^{+2.34}_{-1.89}$	470^{+28}_{-45}	6163^{+1810}_{-934}	21445^{+36958}_{-11467}
Alt.	-457 ± 38	$4.85^{+2.11}_{-1.95}$	467^{+29}_{-38}	6578^{+2045}_{-1052}	27113^{+49555}_{-13744}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

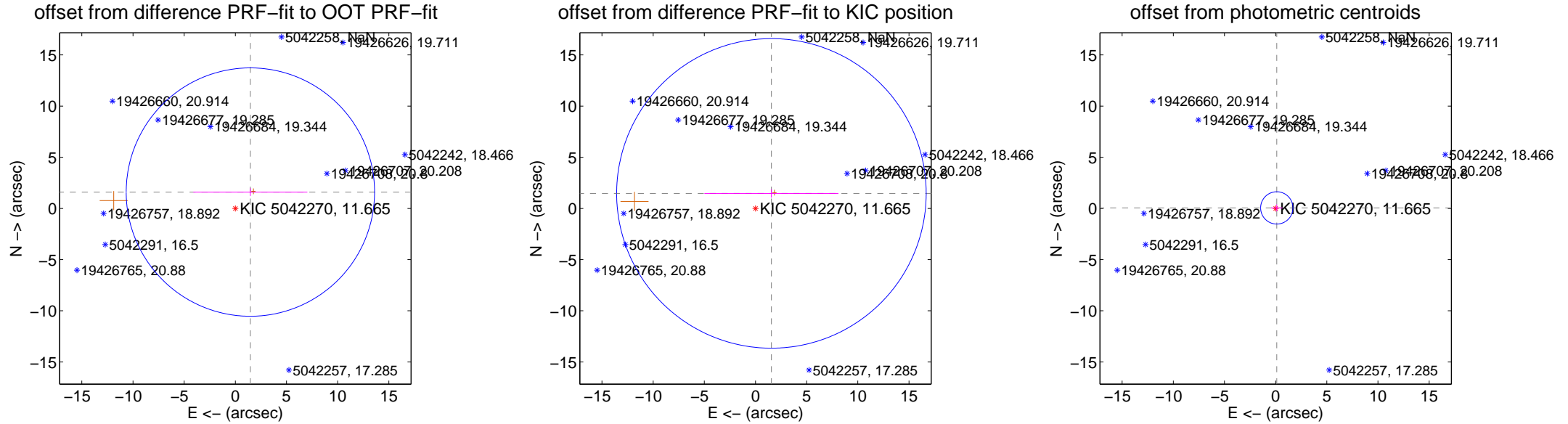
DV Centroid Data

Supplemental centroid analysis for 005042270-03. **Kepler magnitude: 11.66.** Transit SNR 12.67

There are 0 quarters with good PRF difference image offsets

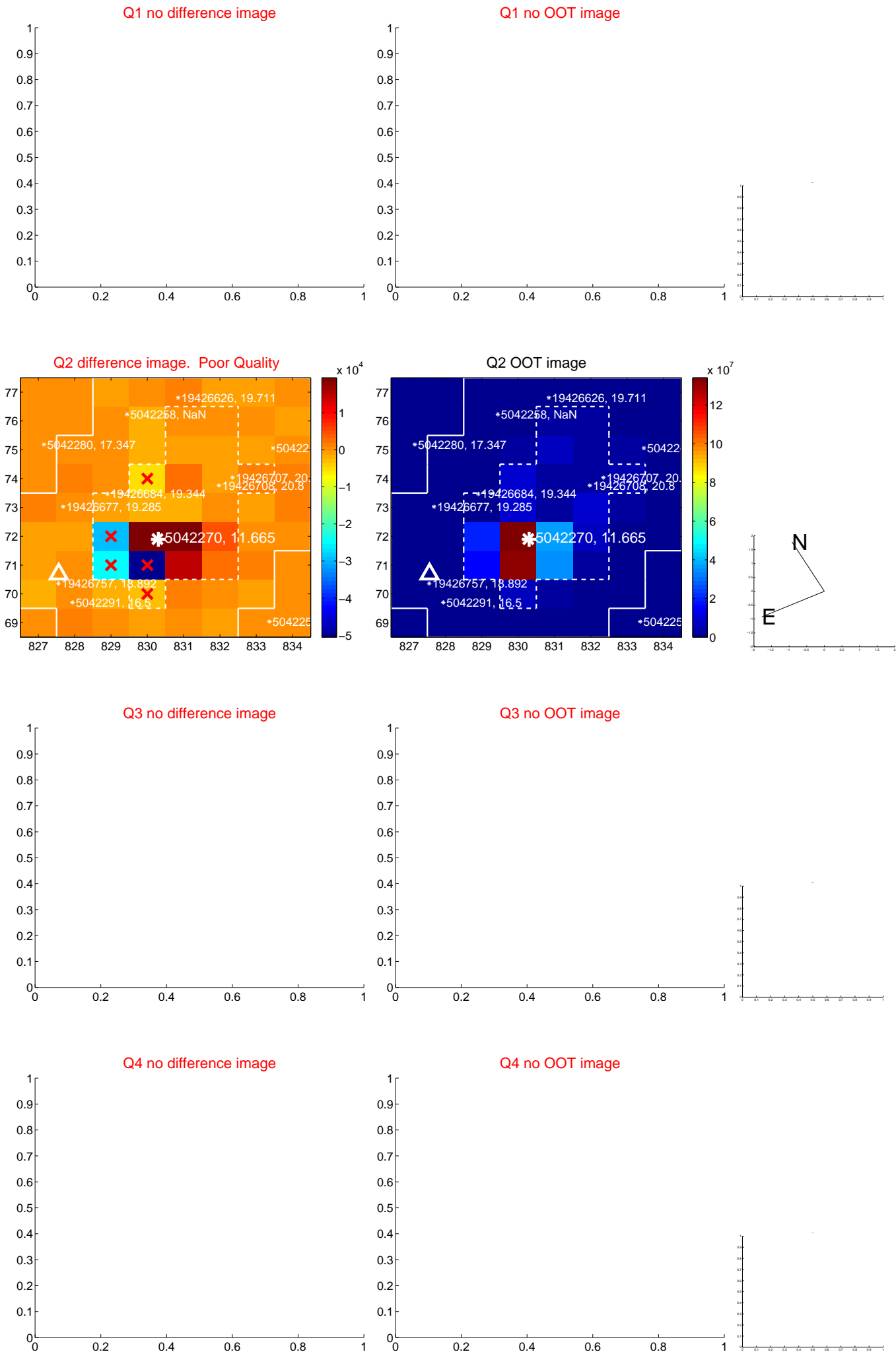
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.172 ± 4.045	0.54	-1.470 ± 5.573	1.599 ± 0.377
PRF-fit source offset from KIC position	2.141 ± 5.041	0.42	-1.557 ± 6.547	1.469 ± 0.413
photometric centroid source offset	0.12 ± 0.53	0.23	-0.11 ± 0.56	0.05 ± 0.34



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

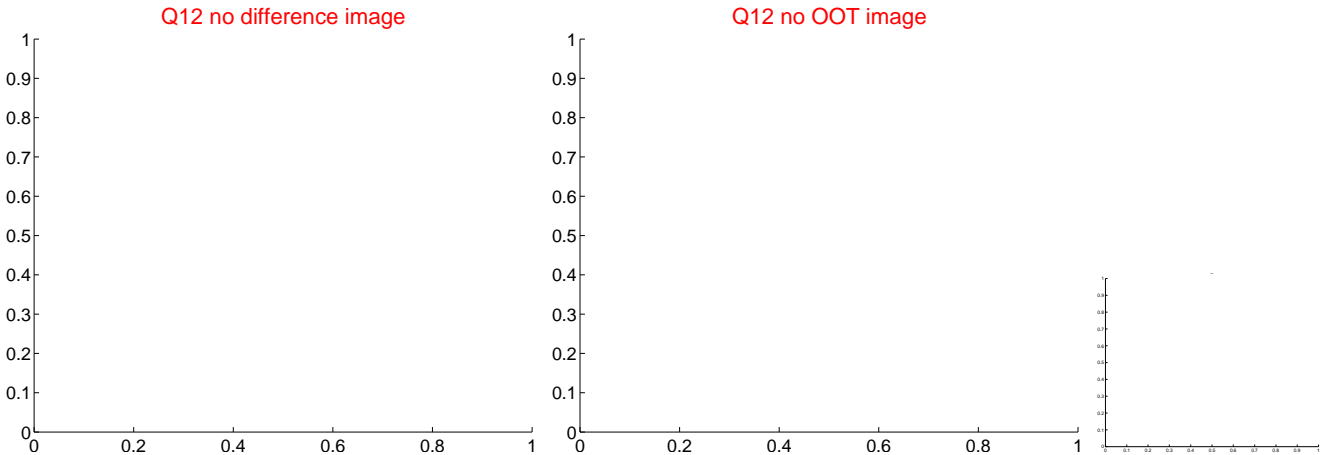
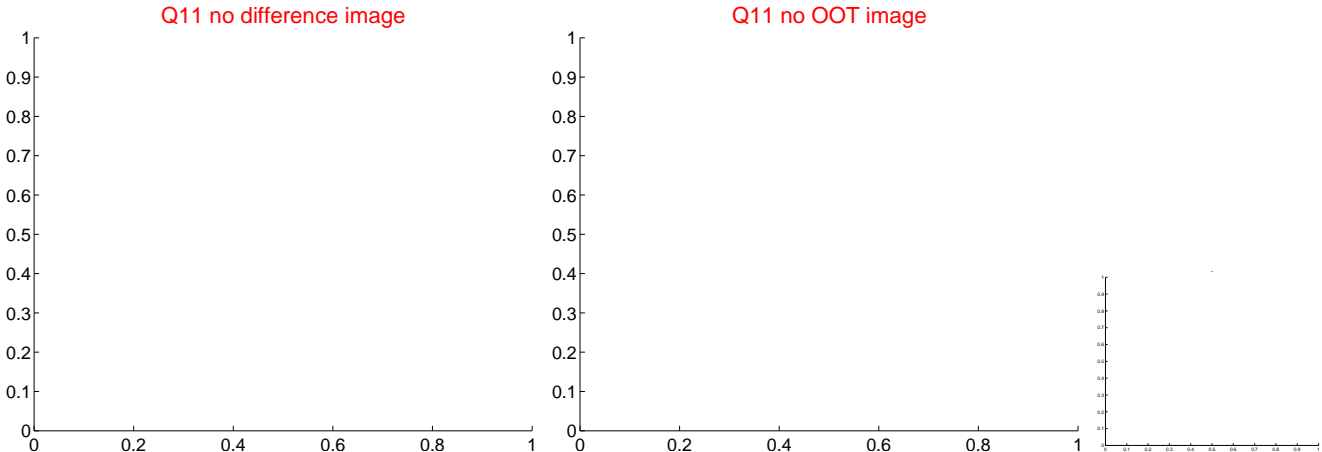
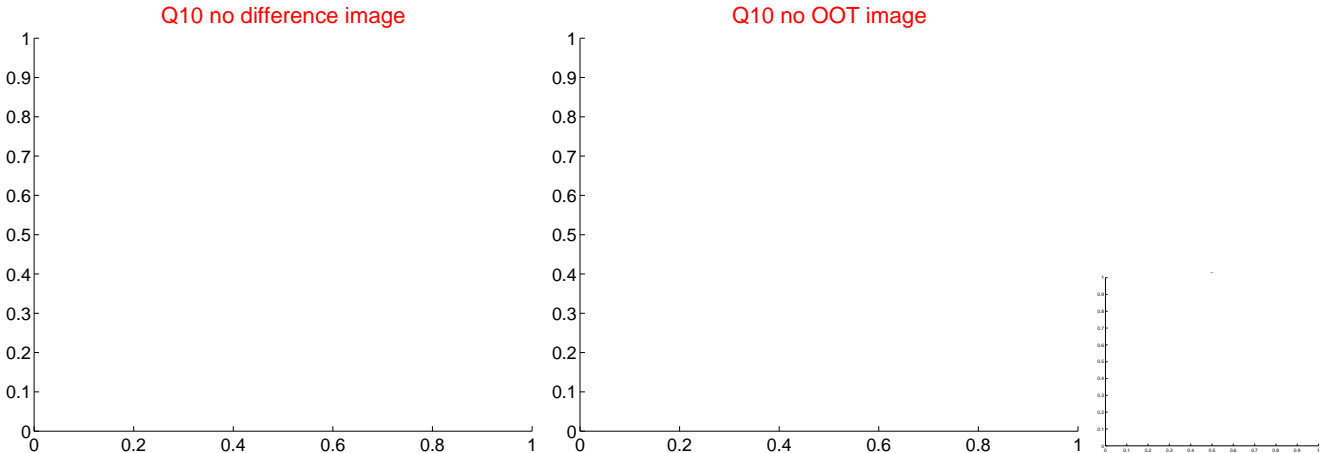
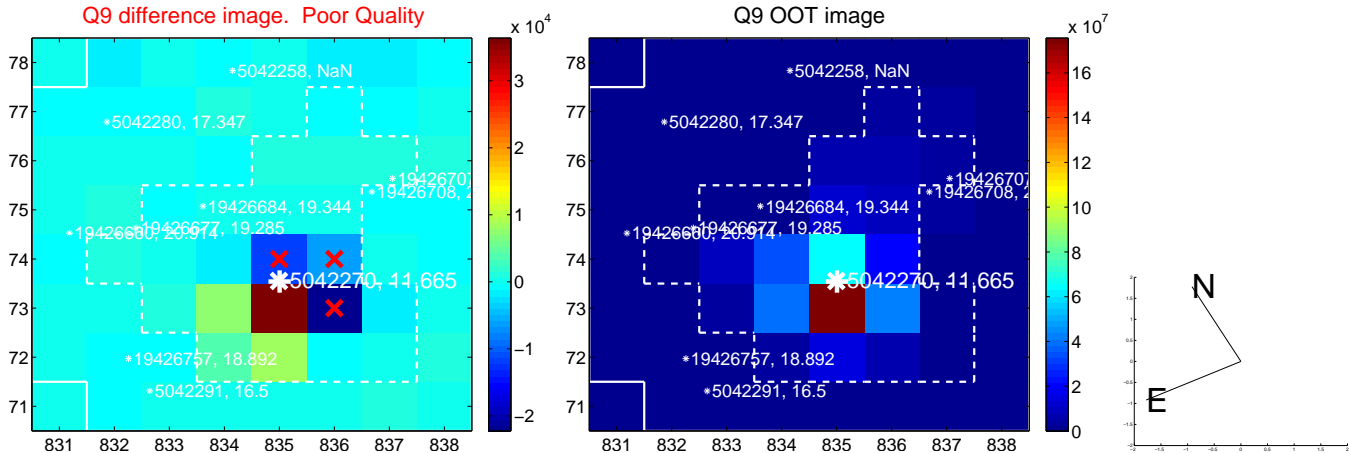
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



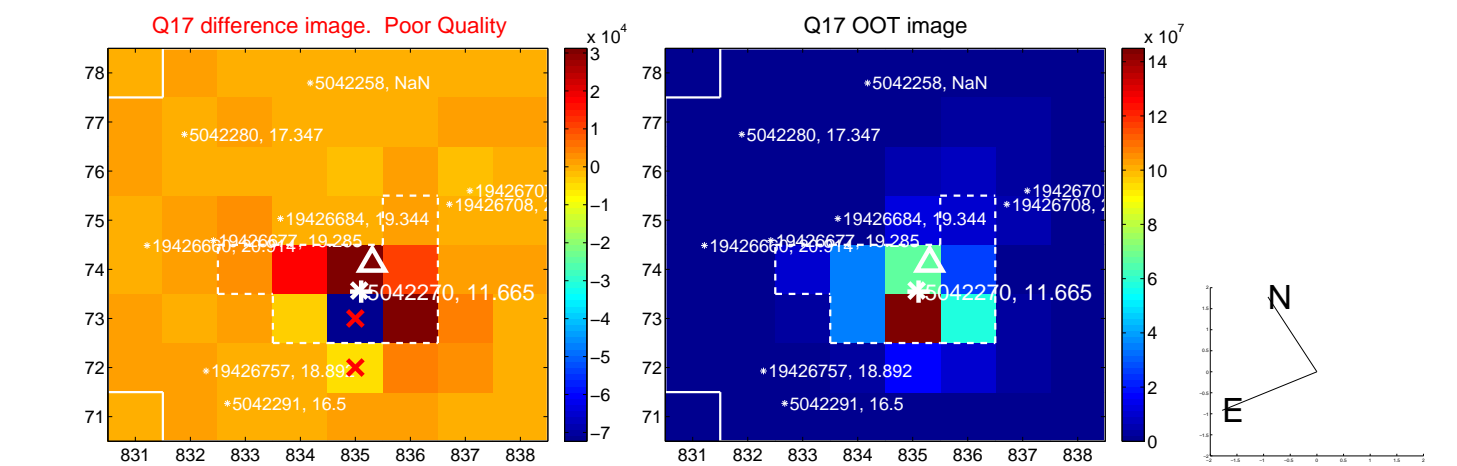
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



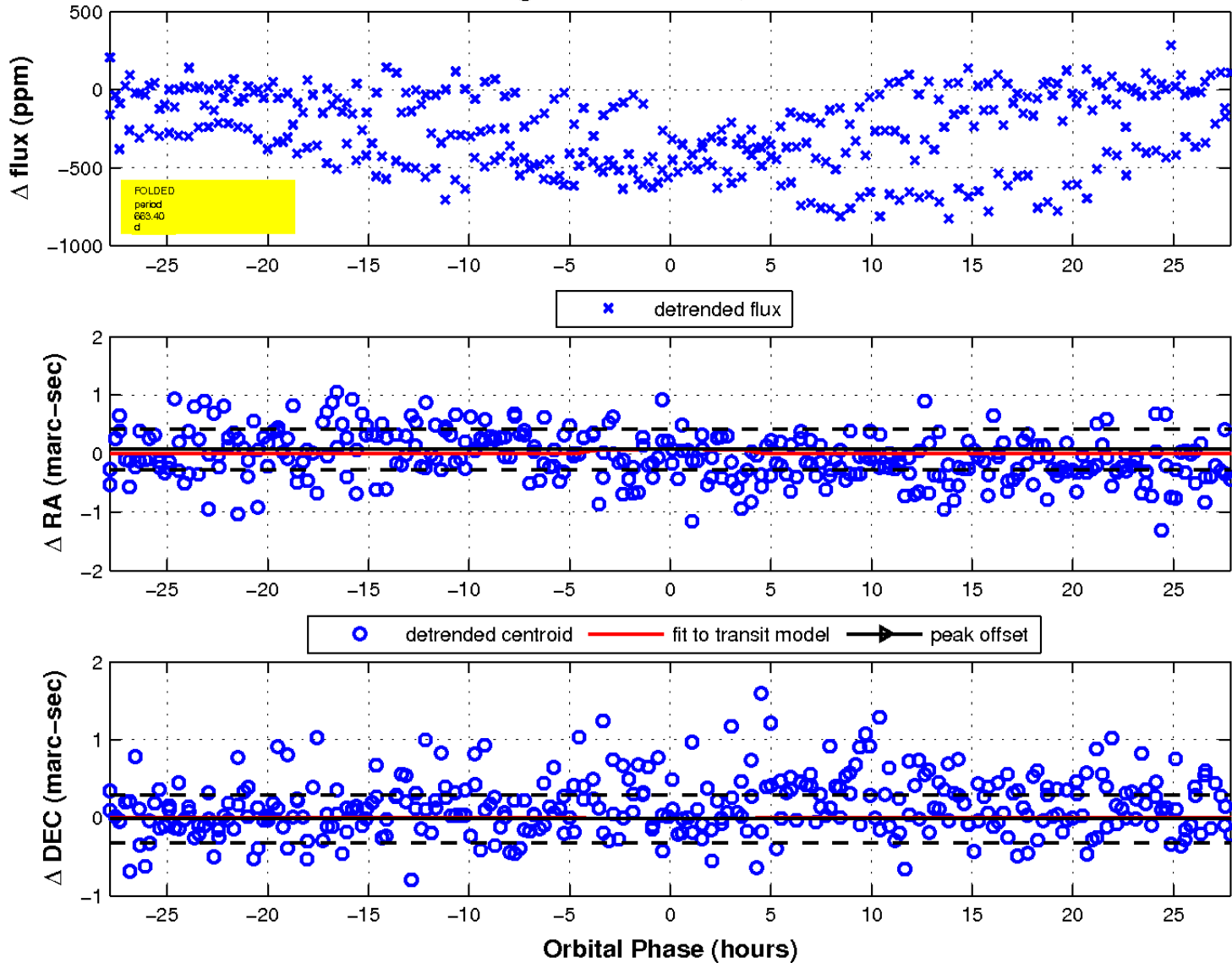
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

